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NEWS 28 Oct 21 EVENTLINE has been reloaded  
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CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),  
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=> s vasodilation?

L1 53235 VASODILATION?

=> s l1 and adenosine?

L2 4730 L1 AND ADENOSINE?

=> s l2 and ribose?

L3 27 L2 AND RIBOSE?

=> d l3 abs ibib 1-27

L3 ANSWER 1 OF 27 MEDLINE

AB We recently reported that cADP-**ribose** (cADPR) and ADP-**ribose** (ADPR) play an important role in the regulation of the Ca(2+)-activated K(+) (K(Ca)) channel activity in coronary arterial smooth

muscle cells (CASMCs). The present study determined whether these novel signaling nucleotides participate in 11,12-epoxyeicosatrienoic acid (11,12-EET)-induced activation of the K(Ca) channels in CASMCs. HPLC analysis has shown that 11,12-EET increased the production of ADPR but

not

the formation of cADPR. The increase in ADPR production was due to activation of NAD glycohydrolase as measured by a conversion rate of NAD into ADPR. The maximal conversion rate of NAD into ADPR in coronary homogenate was increased from 2.5 +/- 0.2 to 3.4 +/- 0.3 nmol\*(-1) \*mg protein\*(-1) by 11,12-EET. The regioisomers of 8,9-EET, 11,12-EET, and 14,15-EET also significantly increased ADPR production from NAD. Western

blot analysis and immunoprecipitation demonstrated the presence of NAD glycohydrolase, which mediated 11,12-EET-activated production of ADPR. In cell-attached patches, 11,12-EET (100 nM) increases K(Ca) channel activity

by 5.6-fold. The NAD glycohydrolase inhibitor cibacron blue 3GA (3GA, 100 microm) significantly attenuated 11,12-EET-induced increase in the K(Ca) channel activity in CSMCs. However, 3GA had no effect on the K(Ca) channels activity in inside-out patches. 11,12-EET produced a concentration-dependent relaxation of precontracted coronary arteries. This 11,12-EET-induced **vasodilation** was substantially attenuated by 3GA (30 microm) with maximal inhibition of 57%. These results indicate that 11,12-EET stimulates the production of ADPR and that intracellular ADPR is an important signaling molecule mediating 11,12-EET-induced activation of the K(Ca) channels in CSMCs and consequently results in **vasodilation** of coronary artery.

ACCESSION NUMBER: 2002176256 MEDLINE  
DOCUMENT NUMBER: 21890559 PubMed ID: 11893556  
TITLE: Role of ADP-**ribose** in 11,12-EET-induced activation of K(Ca) channels in coronary arterial smooth muscle cells.  
AUTHOR: Li Pin-Lan; Zhang David X; Ge Zhi-Dong; Campbell William B  
CORPORATE SOURCE: Department of Pharmacology, Medical College of Wisconsin, Milwaukee, Wisconsin 53226, USA.. pli@post.its.mcw.edu  
CONTRACT NUMBER: HL-51055 (NHLBI)  
HL-57244 (NHLBI)  
SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY. HEART AND CIRCULATORY PHYSIOLOGY, (2002 Apr) 282 (4) H1229-36.  
Journal code: 100901228. ISSN: 0363-6135.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200205  
ENTRY DATE: Entered STN: 20020324  
Last Updated on STN: 20020510  
Entered Medline: 20020509

L3 ANSWER 2 OF 27 MEDLINE

AB Cyclic **adenosine** diphosphate **ribose** and **adenosine** diphosphate **ribose** (ADPR) play an important role in the regulation of intracellular Ca(2+) release and K(+) channel activity in the coronary arterial smooth muscle. The role of these signaling nucleotides in the control of vascular tone has yet to be determined. The present study was designed to determine whether ADPR produces **vasodilation** in coronary arteries and to explore the mechanism of action of ADPR. ADPR (10-60 micromol/l) was found to produce endothelium-independent relaxation in a concentration-dependent manner in isolated and pressurized small bovine coronary arteries. The ADPR-induced **vasodilation** was substantially attenuated by **adenosine** deaminase (0.2 U/ml), and the P(1) purinoceptor antagonist 8-(p-sulphophenyl)theophylline (50 micromol/l), with maximal inhibitions

of

60 and 80%, respectively. When the coronary arterial homogenates were incubated with ADPR, the production of **adenosine** and 5'-AMP was detected. The **adenosine** production was blocked by the 5'-nucleotidase inhibitor, alpha,beta-methylene **adenosine** 5'-diphosphate (MADP, 1 mmol/l), which was accompanied by a corresponding accumulation of 5'-AMP. This 5'-AMP accumulation was substantially inhibited by the apyrase inhibitor sodium azide (10 mmol/l). Moreover, ADPR was hydrolyzed into 5'-AMP by purified apyrase. In agreement with

their inhibitory effect on the **adenosine** production, MADP and sodium azide significantly attenuated the vasodilator response to ADPR. The metabolism of ADPR to **adenosine** was only detected in cultured coronary arterial smooth muscle cells but not in endothelial cells. We concluded that ADPR produces **vasodilation** in small coronary arteries and that the action of ADPR is associated with the **adenosine** production via an apyrase- and 5'-nucleotidase-mediated metabolism.

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ACCESSION NUMBER: 2001182421 MEDLINE  
DOCUMENT NUMBER: 21093291 PubMed ID: 11173996  
TITLE: **Adenosine** diphosphate **ribose** dilates  
bovine coronary small arteries through apyrase- and  
5'-nucleotidase-mediated metabolism.  
AUTHOR: Zhang D X; Zou A P; Li P L  
CORPORATE SOURCE: Department of Pharmacology and Toxicology, Medical College  
of Wisconsin, Milwaukee, WI 53226, USA.  
CONTRACT NUMBER: DK54927 (NIDDK)  
HL-57244 (NHLBI)  
SOURCE: JOURNAL OF VASCULAR RESEARCH, (2001 Jan-Feb) 38 (1) 64-72.  
Journal code: 9206092. ISSN: 1018-1172.  
PUB. COUNTRY: Switzerland  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200103  
ENTRY DATE: Entered STN: 20010404  
Last Updated on STN: 20010404  
Entered Medline: 20010329

L3 ANSWER 3 OF 27 MEDLINE

AB Nitric oxide (NO) is implicated in many different biological functions.  
This is due to its widespread distribution in tissue and to its ability  
to

react with a range of molecules in the organism, of which haemoglobin  
(Hb), soluble guanylyl cyclase (GC), and superoxide anion are of  
particular note. In this review we describe the biological pathways of NO  
and their involvement in its physiological effects and toxicity. This  
endothelial factor rapidly diffuses into the vascular compartment, and

the

reaction with the Hb haem group is the main metabolic pathway for  
endogenous NO. Hb is, therefore, a scavenger for this mediator, which  
prevents it from reaching the tissue components. NO also reacts with the  
GC haem group, and this combination is fundamental to its acute  
vasorelaxing effect. Although molecular oxygen plays a very small part in  
the oxidization process of NO in biological systems, NO reacts with the  
superoxide anion to generate peroxynitrite at a rate that is limited only  
by its diffusion coefficient. This reaction is important in pathological  
conditions because the peroxynitrite thus formed is a selective oxidant  
and nitrating agent that interacts with numerous biological molecules,  
thereby damaging them. In addition, of particular note are the  
interactions of NO with thiol groups, which may mediate several relevant  
effects in the organism. NO may also activate endogenous  
ribosyltransferases, which facilitate the transfer of **adenosine**  
diphosphate-**ribose** groups from nicotine adenine dinucleotide to  
the G protein amino acid residues. These last two processes may also be  
involved in the control of arterial tone and more precisely so when  
chronic NO production takes place.

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ACCESSION NUMBER: 2001095448 MEDLINE

DOCUMENT NUMBER: 20481843 PubMed ID: 11023703  
 TITLE: Nitric oxide reactivity and mechanisms involved in its biological effects.  
 AUTHOR: Ortega Mateo A; Amaya Aleixandre de Artinano  
 CORPORATE SOURCE: Departamento de Farmacologia, Facultad de Medicina, Universidad Complutense de Madrid, Spain.  
 SOURCE: PHARMACOLOGICAL RESEARCH, (2000 Nov) 42 (5) 421-7. Ref: 63  
 Journal code: 8907422. ISSN: 1043-6618.  
 PUB. COUNTRY: ENGLAND: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 General Review; (REVIEW)  
 (REVIEW, TUTORIAL)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200102  
 ENTRY DATE: Entered STN: 20010322  
 Last Updated on STN: 20010322  
 Entered Medline: 20010201

L3 ANSWER 4 OF 27 MEDLINE

AB cADP-**ribose** (cADPR) induces the release of Ca(2+) from the intracellular stores of coronary artery smooth muscle cells. However, little is known about the role of cADPR-mediated intracellular Ca(2+) release in the control of vascular tone. The present study examined the effects of nicotinamide, a specific inhibitor of ADP-ribosylcyclase, on the vascular tone of bovine coronary arteries. A bovine coronary artery homogenate stimulated the conversion of nicotinamide guanine dinucleotide into cGDP-**ribose**, which is a measure of ADP-ribosylcyclase activity. Nicotinamide significantly inhibited the formation of cGDP-**ribose** in a concentration-dependent manner: at a concentration of 10 mmol/L, it reduced the conversion rate from 3.34+/-0.11 nmol. min(-1). mg(-1) of protein in control cells to 1.42+/-0.11 nmol. min(-1). mg(-1)

of protein in treated cells, a 58% reduction. In U46619-precontracted coronary artery rings, nicotinamide produced concentration-dependent relaxation. Complete relaxation with nicotinamide occurred at a dose of 8 mmol/L; the median inhibitory concentration (IC(50)) was 1.7 mmol/L. In the presence of a cell membrane-permeant cADPR antagonist, 8-bromo-cADPR, nicotinamide-induced vasorelaxation was markedly attenuated. Pretreatment of the arterial rings with ryanodine (50 micromol/L) significantly blunted

the vasorelaxation response to nicotinamide. However, iloprost- and **adenosine**-induced vasorelaxation was not altered by 8-bromo-cADPR. Moreover, nicotinamide significantly attenuated KCl- or Bay K8644-induced vasoconstriction by 60% and 70%, respectively. These results suggest that the inhibition of cADPR formation by nicotinamide produces vasorelaxation and blunts KCl- and Bay K8644-induced vasoconstriction in coronary arteries and that the cADPR-mediated Ca(2+) signaling pathway plays a role

in the control of vascular tone in coronary circulation.

ACCESSION NUMBER: 2000108958 MEDLINE  
 DOCUMENT NUMBER: 20108958 PubMed ID: 10642331  
 TITLE: Inhibition of cADP-**ribose** formation produces **vasodilation** in bovine coronary arteries.  
 AUTHOR: Geiger J; Zou A P; Campbell W B; Li P L  
 CORPORATE SOURCE: Departments of Pharmacology and Toxicology and Physiology, Medical College of Wisconsin, Milwaukee 53226, USA.  
 CONTRACT NUMBER: HL-51055 (NHLBI)  
 HL-57244 (NHLBI)

SOURCE: HYPERTENSION, (2000 Jan) 35 (1 Pt 2) 397-402.  
Journal code: 7906255. ISSN: 0194-911X.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200002  
ENTRY DATE: Entered STN: 20000218  
Last Updated on STN: 20000218  
Entered Medline: 20000207

L3 ANSWER 5 OF 27 MEDLINE

AB Endotoxin (Etx) causes excessive activation of the nuclear repair enzyme poly(ADP-ribose) synthase (PARS), which depletes cellular energy stores and leads to vascular dysfunction. We hypothesized that PARS inhibition would attenuate injury to mechanisms of pulmonary vasorelaxation in acute lung injury. The purpose of this study was to determine the effect of in vivo PARS inhibition on Etx-induced dysfunction

of pulmonary vasorelaxation. Rats received intraperitoneal saline or Etx (Salmonella typhimurium; 20 mg/kg) and one of the PARS inhibitors, 3-aminobenzamide (3-AB; 10 mg/kg) or nicotinamide (Nic; 200 mg/kg), 90 min

later. After 6 h, concentration-response curves were determined in isolated pulmonary arterial rings. Etx impaired endothelium-dependent (response to ACh and calcium ionophore) and -independent (sodium nitroprusside) cGMP-mediated vasorelaxation. 3-AB and Nic attenuated Etx-induced impairment of endothelium-dependent and -independent pulmonary

vasorelaxation. 3-AB and Nic had no effect on Etx-induced increases in lung myeloperoxidase activity and edema. Lung ATP decreased after Etx but was maintained by 3-AB and Nic. Pulmonary arterial PARS activity increased

fivefold after Etx, which 3-AB and Nic prevented. The beneficial effects were not observed with benzoic acid, a structural analog of 3-AB that does

not inhibit PARS. Our results suggest that PARS inhibition with 3-AB or Nic improves pulmonary vasorelaxation and preserves lung ATP levels in acute lung injury.

ACCESSION NUMBER: 1999447287 MEDLINE  
DOCUMENT NUMBER: 99447287 PubMed ID: 10516218  
TITLE: Inhibition of PARS attenuates endotoxin-induced dysfunction

AUTHOR: Pulido E J; Shames B D; Selzman C H; Barton H A; Banerjee A; Bensard D D; McIntyre R C Jr  
CORPORATE SOURCE: Department of Surgery, University of Colorado Health Sciences Center and Veterans Affairs Hospital, Denver 80262, Colorado.

CONTRACT NUMBER: GM-49222 (NIGMS)  
HD-36256-01 (NICHD)

SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY, (1999 Oct) 277 (4 Pt 1) L769-76.  
Journal code: 0370511. ISSN: 0002-9513.

PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199911  
ENTRY DATE: Entered STN: 20000111

Last Updated on STN: 20000111  
Entered Medline: 19991122

L3 ANSWER 6 OF 27 MEDLINE

AB We examined whether human cardiac tissue contains diadenosine polyphosphates and investigated their physiological role. Extracts from human cardiac tissue from transplant recipients were fractionated by size exclusion-, affinity-, anion exchange- and reversed-phase chromatography. MALDI-MS analysis of two absorbing fractions revealed molecular masses of 676.2 Da and 756.0 Da. The UV spectra of both fractions were identical to that of **adenosine**. Postsources decay MALDI mass spectrometry indicated that the molecules with a mass of 676.2 Da and 757.0 Da contained AMP and ATP, respectively. As shown by enzymatic cleavage, both molecules consist of two **adenosines** interconnected by either two or three phosphates in 5'-positions of the **ribose**s. Two substances can be identified as 5',5''-P1,P2-diphosphate (Ap2A) and 5',5''-P1, P3-triphosphate (Ap3A). Ap2A and Ap3A, together with ATP and ADP, are stored in myocardial-specific granules in biologically active concentrations. In the isolated perfused rat heart, Ap2A and Ap3A caused dose-dependent coronary **vasodilations**. In myocardial preparations, Ap2A and Ap3A attenuated the effect of isoproterenol, exerting a negative inotropic effect. The calcium current of guinea pig ventricular myocytes, stimulated by isoproterenol, was also attenuated by Ap2A and Ap3A. The presence of Ap2A and Ap3A in cardiac-specific granules and the actions of these substances on the myocardium and coronary vessels

indicate a role for these substances as endogenous modulators of myocardial functions and coronary perfusion.

ACCESSION NUMBER: 1999196951 MEDLINE  
DOCUMENT NUMBER: 99196951 PubMed ID: 10094930  
TITLE: Identification and characterization of diadenosine 5',5''-P1,P2 -diphosphate and diadenosine 5',5''-P1,P3-triphosphate in human myocardial tissue.  
AUTHOR: Luo J; Jankowski J; Knobloch M; Van der Giet M; Gardanis K;  
Russ T; Vahlensieck U; Neumann J; Schmitz W; Tepel M; Deng M C; Zidek W; Schluter H  
CORPORATE SOURCE: Medizinische Klinik I, Universitätsklinik Marienhospital der Ruhr-Universität Bochum, Germany.  
SOURCE: FASEB JOURNAL, (1999 Apr) 13 (6) 695-705.  
Journal code: 8804484. ISSN: 0892-6638.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199904  
ENTRY DATE: Entered STN: 19990504  
Last Updated on STN: 20000303  
Entered Medline: 19990419

L3 ANSWER 7 OF 27 MEDLINE

AB **Adenosine** consists of one **ribose** and one purine moiety and binds to specific receptors on cell membranes. The receptors are coupled to G-proteins and additionally to various effector-systems. When  
a mismatch occurs between energy supply and energy demand, **adenosine** is produced by the catabolism of **adenosine** triphosphate. The metabolism of an organ is thereby coupled to the local blood supply (metabolic **vasodilation**). In addition to **vasodilation**, **adenosine** has several electrophysiological, cardioprotective,

metabolic, and antiinflammatory properties. **Adenosine** is rapidly metabolized in blood and interstitial fluid, through cell absorption and degradation by **adenosine** deaminase. The short half-life of **adenosine** limits its clinical value. However, there are several ways of increasing the interstitial concentration of **adenosine**. At present, **adenosine** or **adenosine**-potentiating substances are used clinically to terminate supraventricular tachycardias, to induce myocardial ischemia in patients who are unable to exercise, and to reduce myocardial ischemia or reperfusion injury. Caffeine and other methylxanthines are **adenosine** receptor antagonists, and several of the pharmacodynamic properties of these substances are caused by **adenosine** receptor antagonism.

ACCESSION NUMBER: 1998261878 MEDLINE  
DOCUMENT NUMBER: 98261878 PubMed ID: 9599504  
TITLE: [Receptor mediated effects of **adenosine** and caffeine].  
Reseptormedierte effekter av adenosin og koffein.  
AUTHOR: Eikvar L; Kirkeboen K A  
CORPORATE SOURCE: Klinisk kjemisk avdeling, Rikshospitalet, Oslo.  
SOURCE: TIDSSKRIFT FOR DEN NORSKE LAEGEFORENING, (1998 Mar 30) 118  
(9) 1390-5. Ref: 74  
Journal code: 0413423. ISSN: 0029-2001.  
PUB. COUNTRY: Norway  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LANGUAGE: Norwegian  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199806  
ENTRY DATE: Entered STN: 19980618  
Last Updated on STN: 19980618  
Entered Medline: 19980608

L3 ANSWER 8 OF 27 MEDLINE

AB Nitric oxide stimulates endogenous ADP-ribosylation of cytosolic and membrane-bound proteins. Endogenous ADP-ribosyltransferases modify several intracellular proteins including the heterotrimeric GTP-binding proteins (G proteins). ADP-ribosylation of G proteins in vascular smooth muscle leads to increased activation of adenylate cyclase and decreased activation of phospholipase C leading to **vasodilation**. We hypothesize that in hypertension, chronically depressed endothelium-derived nitric oxide levels lead to decreased ADP-ribosylation of G proteins. This reduced ADP-ribosylation leads to vasoconstriction since activation of the G proteins by agonists is unopposed. Thus, disinhibition of G proteins, mediated by nitric oxide deficit, is responsible for the observed increased sensitivity to vasoconstrictor agonists in hypertension. This novel role for nitric oxide in hypertension will provide a new area of research for antihypertensive therapeutic intervention.

ACCESSION NUMBER: 95333953 MEDLINE  
DOCUMENT NUMBER: 95333953 PubMed ID: 7609667  
TITLE: Nitric oxide regulation of ADP-ribosylation of G proteins in hypertension.  
AUTHOR: Kanagy N L; Charpie J R; Webb R C  
CORPORATE SOURCE: University of Michigan Medical School, Ann Arbor  
48109-0622, USA.



CONTRACT NUMBER: HL 18575 (NHLBI)  
 SOURCE: MEDICAL HYPOTHESES, (1995 Mar) 44 (3) 159-64. Ref: 39  
 Journal code: 7505668. ISSN: 0306-9877.  
 PUB. COUNTRY: ENGLAND: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 General Review; (REVIEW)  
 (REVIEW, TUTORIAL)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199508  
 ENTRY DATE: Entered STN: 19950828  
 Last Updated on STN: 20000303  
 Entered Medline: 19950811

L3 ANSWER 9 OF 27 MEDLINE

AB 1. The pharmacological actions of the purine nucleotides  
 beta-nicotinamide

adenine dinucleotide (NAD), beta-nicotinamide adenine dinucleotide  
 phosphate (beta-NADP), **adenosine** 5'-diphosphoribose (ADP-  
**ribose**), the vitamin nicotinamide and structural analogues of NAD  
 and NADP were tested in the isolated perfused mesenteric arterial bed of  
 the rat. Prejunctional effects of NAD were tested against sympathetic  
 vasoconstriction at basal tone, and against sensory-motor vasodilatation  
 at raised tone. 2. NAD and NADP had no vasoconstrictor action but were  
 weak vasodilators of the raised-tone mesenteric arterial bed. A rank  
 order

of vasodilator potency of ADP >> ADP-**ribose** >> NADP > or = NAD =  
**adenosine** was observed. The P1-purinoceptor antagonist,  
 8-para-sulphophenyltheophylline (8-pST; 3 microM) inhibited vasodilator  
 responses to NAD (pKB of 6.61 +/- 0.21, n = 7) and **adenosine**  
 (pKB of 5.78 +/- 0.14, n = 6), but not those elicited by NADP, ADP and  
 ADP-**ribose**. Nicotinamide, and analogues of NAD and NADP, namely  
 nicotinamide-1, N6-ethenoadenine dinucleotide phosphate, beta-nicotinamide  
 mononucleotide, nicotinamide hypoxanthine dinucleotide phosphate,  
 nicotinamide hypoxanthine dinucleotide, nicotinamide guanine  
 dinucleotide,

and nicotinamide-1, N6-ethenoadenine dinucleotide had no vasoconstrictor  
 or vasodilator actions (at doses of up to 50 nmol). 3. At basal tone,  
 electrical field stimulation (EFS) (32 Hz, 1ms, 90 V, 5 s) at 2 min  
 intervals elicited reproducible vasoconstrictor responses due to  
 activation of sympathetic nerves. NAD and **adenosine** (10-100  
 microM) inhibited these responses in a concentration-dependent manner  
 with

similar potencies. Nicotinamide had no effect on sympathetic  
 vasoconstriction at concentrations of up to 0.1 mM. (ABSTRACT TRUNCATED AT  
 250 WORDS)

ACCESSION NUMBER: 95323273 MEDLINE  
 DOCUMENT NUMBER: 95323273 PubMed ID: 7599921  
 TITLE: Modulation by nicotinamide adenine dinucleotide of  
 sympathetic and sensory-motor neurotransmission via  
 P1-purinoceptors in the rat mesenteric arterial bed.  
 AUTHOR: Ralevic V  
 CORPORATE SOURCE: Department of Anatomy and Developmental Biology,  
 University  
 College London.  
 SOURCE: BRITISH JOURNAL OF PHARMACOLOGY, (1995 Apr) 114 (8)  
 1541-8.  
 Journal code: 7502536. ISSN: 0007-1188.  
 PUB. COUNTRY: ENGLAND: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199508  
ENTRY DATE: Entered STN: 19950822  
Last Updated on STN: 19950822  
Entered Medline: 19950808

L3 ANSWER 10 OF 27 MEDLINE

AB The inhibitory nucleotide-regulatory protein (G<sub>i</sub>) has been shown to lose its adenylate cyclase inhibitory effect upon treatment with pertussis toxin. To find out whether a pertussis sensitive mechanism is involved in the regulation of the cGMP-system, bovine mesenteric arteries were incubated in buffer containing pertussis toxin, and the relaxation and intracellular cGMP accumulation induced by different groups of vasodilating agents were studied. The present results show a pertussis toxin induced decrease in relaxation as well as a decrease in the cGMP-elevation induced by the endothelium dependent vasodilators acetylcholine and calcium ionophore A 23187. Arteries treated with atrial natriuretic peptide showed no alterations in relaxation or cGMP content after incubation with pertussis toxin. A 40 kD soluble ribosylation substrate for pertussis toxin was identified in bovine mesenteric artery. These results suggest that a pertussis toxin sensitive mechanism is involved in the vasodilating mechanism of acetylcholine and calcium ionophore A 23187, while no evidence for such a mechanism could be found regarding the vasodilatory action of atrial natriuretic peptide.

ACCESSION NUMBER: 90173687 MEDLINE  
DOCUMENT NUMBER: 90173687 PubMed ID: 2155364  
TITLE: Effects of pertussis toxin on **vasodilation** and cyclic GMP in bovine mesenteric arteries and demonstration of a 40 kD soluble protein ribosylation substrate for pertussis toxin.  
AUTHOR: Ljusegren M E; Axelsson K L; Ahlner J; Karlsson J O; Andersson R G; Magnusson B R; Friedman R L  
CORPORATE SOURCE: Department of Biology, Linköping University, Sweden.  
SOURCE: LIFE SCIENCES, (1990) 46 (8) 543-52.  
Journal code: 0375521. ISSN: 0024-3205.  
PUB. COUNTRY: ENGLAND: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199004  
ENTRY DATE: Entered STN: 19900601  
Last Updated on STN: 19900601  
Entered Medline: 19900406

L3 ANSWER 11 OF 27 MEDLINE

AB **Adenosine** and 5'-chloro-5'-deoxyadenosine inhibited the phosphorylation of phosphatidylinositol in membranes prepared from aortic smooth muscle. The nucleosides did not affect the breakdown of phosphatidylinositol-4-phosphate. Under certain conditions, the membrane-bound phosphatidylinositol kinase phosphorylated exogenous phosphatidylinositol. The nucleosides inhibited the enzyme competitively with respect to magnesium-ATP and non-competitively with respect to phosphatidylinositol. **Adenosine** analogs modified in the **ribose** moiety were inhibitors with potencies comparable to that of **adenosine**, whereas adenine nucleotides and purine-modified **adenosine** analogs were much weaker inhibitors. Density gradient fractionation studies showed that phosphatidylinositol kinase is primarily associated with the sarcoplasmic reticulum. Vascular smooth muscle

contraction is associated with increased phosphatidylinositol turnover. Inhibition of phosphatidylinositol kinase by intracellular **adenosine** may, therefore, be a factor involved in regulating **vasodilation**.

ACCESSION NUMBER: 87270810 MEDLINE  
DOCUMENT NUMBER: 87270810 PubMed ID: 3038119  
TITLE: Inhibition of phosphatidylinositol kinase in vascular smooth muscle membranes by **adenosine** and related compounds.  
AUTHOR: Doctrow S R; Lowenstein J M  
CONTRACT NUMBER: GM07261 (NIGMS)  
T32 GM07596 (NIGMS)  
SOURCE: BIOCHEMICAL PHARMACOLOGY, (1987 Jul 15) 36 (14) 2255-62.  
Journal code: 0101032. ISSN: 0006-2952.  
PUB. COUNTRY: ENGLAND: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198708  
ENTRY DATE: Entered STN: 19900305  
Last Updated on STN: 19980206  
Entered Medline: 19870819

L3 ANSWER 12 OF 27 MEDLINE  
AB A number of natural physiological agents deserve evaluation in the treatment of acute myocardial infarction. Prostacyclin and magnesium dilate large coronary arteries and could promote collateral circulation to ischemic regions, especially if used in conjunction with alpha-agonists to prevent a drop in coronary perfusion pressure. In addition, prostacyclin has anti-aggregatory and de-aggregatory effects on platelets and a stabilizing action on hypoxic tissue, while magnesium has anti-arrhythmic, potassium-retaining, and fibrinolytic effects, all of which could improve the outcome in acute MI. **Adenosine** or **ribose** infusion could be used to promote rapid repletion of adenine nucleotides in reperfused tissue, but unfortunately arteriolar **vasodilation** by **adenosine** might reduce collateral perfusion by "coronary steal". High-dose insulin has positive-inotropic (at minimal oxygen cost) and potent anti-arrhythmic actions that have not been adequately tested in previous clinical trials of "polarizing solutions". Carnitine infusion could improve the bioenergetics of ischemic myocardium by relieving inhibition of mitochondrial adenine nucleotide translocase.

ACCESSION NUMBER: 84039052 MEDLINE  
DOCUMENT NUMBER: 84039052 PubMed ID: 6415374  
TITLE: Management of acute myocardial infarction with natural physiological agents.  
AUTHOR: McCarty M F  
SOURCE: MEDICAL HYPOTHESES, (1983 Aug) 11 (4) 449-65. Ref: 98  
Journal code: 7505668. ISSN: 0306-9877.  
PUB. COUNTRY: ENGLAND: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198312  
ENTRY DATE: Entered STN: 19900319  
Last Updated on STN: 19970203  
Entered Medline: 19831220

L3 ANSWER 13 OF 27 MEDLINE

AB Intracoronary **adenosine** infusions in conscious dogs produced half-maximal coronary **vasodilation** at 0.57 +/- 0.18 (SD) microns and at 1.01 +/- 0.25 microns in open-chest dogs. In both preparations, **adenosine** at concentrations in the range found in cardiac muscle by direct analysis produced coronary **vasodilation** equal to that attained during a maximum reactive hyperemic response. The quantitative structure-activity relationship technique was applied to data on the coronary vasoactivity of 68 **adenosine** analogs to identify the chemical features of this molecule that determine its vasoactivity. These are: (1) the size of the purine base; (2) the inductive effect of C-2 substituent; (3) the electron-withdrawing effect of the C-6 substituent; (4) the glycosylic torsion angle; (5) the ability of the C-2' and C-3' hydroxyls to participate in hydrogen bonding; (7) the absence of sterically hindering groups in the vicinity of C-2' and, more importantly, C-3'; and (8) the inductive effect of the C-5' substituent. The hydrophobicity of these analogs did not correlate with vasoactivity, suggesting that the hydrophilicity of the **ribose** moiety overshadows any hydrophobic influence of the very weakly aromatic purine base.

ACCESSION NUMBER: 80002080 MEDLINE  
DOCUMENT NUMBER: 80002080 PubMed ID: 476869  
TITLE: Coronary vasoactivity of **adenosine** in the conscious dog.  
AUTHOR: Olsson R A; Khouri E M; Bedynek J L Jr; McLean J  
SOURCE: CIRCULATION RESEARCH, (1979 Oct) 45 (4) 468-78.  
Journal code: 0047103. ISSN: 0009-7330.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 197911  
ENTRY DATE: Entered STN: 19900315  
Last Updated on STN: 19900315  
Entered Medline: 19791121

L3 ANSWER 14 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB Cyclic **adenosine** diphosphate **ribose** and **adenosine** diphosphate **ribose** (ADPR) play an important role in the regulation of intracellular Ca<sup>2+</sup> release and K<sup>+</sup> channel activity in the coronary arterial smooth muscle. The role of these signaling nucleotides in the control of vascular tone has yet to be determined. The present study was designed to determine whether ADPR produces **vasodilation** in coronary arteries and to explore the mechanism of action of ADPR. ADPR (10-60 mumol/l) was found to produce endothelium-independent relaxation in a concentration-dependent manner in isolated and pressurized small bovine coronary arteries. The ADPR-induced **vasodilation** was substantially attenuated by **adenosine** deaminase (0.2 U/ml), and the P1 purinoceptor antagonist 8-(p-sulphophenyl)theophylline (50 mumol/l), with maximal inhibitions of

60

and 80%, respectively. When the coronary arterial homogenates were incubated with ADPR, the production of **adenosine** and 5'-AMP was detected. The **adenosine** production was blocked by the 5'-nucleotidase inhibitor, alpha,beta-methylene **adenosine** 5'-diphosphate (MADP, 1 mmol/l), which was accompanied by a corresponding accumulation of 5'-AMP. This 5'-AMP accumulation was substantially inhibited by the apyrase inhibitor sodium azide (10 mmol/l). Moreover,

ADPR was hydrolyzed into 5'-AMP by purified apyrase. In agreement with their inhibitory effect on the **adenosine** production, MADP and sodium azide significantly attenuated the vasodilator response to ADPR. The metabolism of ADPR to **adenosine** was only detected in cultured coronary arterial smooth muscle cells but not in endothelial cells. We concluded that ADPR produces **vasodilation** in small coronary arteries and that the action of ADPR is associated with the **adenosine** production via an apyrase- and 5'-nucleotidase-mediated metabolism.

ACCESSION NUMBER: 2001:149402 BIOSIS  
DOCUMENT NUMBER: PREV200100149402  
TITLE: **Adenosine** diphosphate **ribose** dilates  
bovine coronary small arteries through apyrase- and  
5'-nucleotidase-mediated metabolism.  
AUTHOR(S): Zhang, David X.; Zou, Ai-Ping; Li, Pin-Lan (1)  
CORPORATE SOURCE: (1) Department of Pharmacology and Toxicology, Medical  
College of Wisconsin, 8701 Watertown Plank Road,  
Milwaukee,  
WI, 53226: pli@mcw.edu USA  
SOURCE: Journal of Vascular Research, (January February, 2001)  
Vol. 38, No. 1, pp. 64-72. print.  
ISSN: 1018-1172.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

L3 ANSWER 15 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB cADP-**ribose** (cADPR) induces the release of Ca<sup>2+</sup> from the  
intracellular stores of coronary artery smooth muscle cells. However,  
little is known about the role of cADPR-mediated intracellular Ca<sup>2+</sup>  
release in the control of vascular tone. The present study examined the  
effects of nicotinamide, a specific inhibitor of ADP-ribosylcyclase, on  
the vascular tone of bovine coronary arteries. A bovine coronary artery  
homogenate stimulated the conversion of nicotinamide guanine dinucleotide  
into cGDP-**ribose**, which is a measure of ADP-ribosylcyclase  
activity. Nicotinamide significantly inhibited the formation of cGDP-  
**ribose** in a concentration-dependent manner: at a concentration of  
10 mmol/L, it reduced the conversion rate from 3.34+-0.11 nmol cntdot  
min-1 cntdot mg-1 of protein in control cells to 1.42+-0.11 nmol cntdot  
min-1 cntdot mg-1 of protein in treated cells, a 58% reduction. In  
U46619-precontracted coronary artery rings, nicotinamide produced  
concentration-dependent relaxation. Complete relaxation with nicotinamide  
occurred at a dose of 8 mmol/L; the median inhibitory concentration  
(IC50)  
was 1.7 mmol/L. In the presence of a cell membrane-permeant cADPR  
antagonist, 8-bromo-cADPR, nicotinamide-induced vasorelaxation was  
markedly attenuated. Pretreatment of the arterial rings with ryanodine  
(50  
mumol/L) significantly blunted the vasorelaxation response to  
nicotinamide. However, iloprost- and **adenosine**-induced  
vasorelaxation was not altered by 8-bromo-cADPR. Moreover, nicotinamide  
significantly attenuated KCl- or Bay K8644-induced vasoconstriction by  
60%  
and 70%, respectively. These results suggest that the inhibition of cADPR  
formation by nicotinamide produces vasorelaxation and blunts KCl- and Bay  
K8644-induced vasoconstriction in coronary arteries and that the  
cADPR-mediated Ca<sup>2+</sup> signaling pathway plays a role in the control of  
vascular tone in coronary circulation.  
ACCESSION NUMBER: 2000:121671 BIOSIS

DOCUMENT NUMBER: PREV200000121671  
 TITLE: Inhibition of cADP-ribose formation produces **vasodilation** in bovine coronary arteries.  
 AUTHOR(S): Geiger, Jason; Zou, Ai-Ping; Campbell, William B.; Li, Pin-Lan (1)  
 CORPORATE SOURCE: (1) Department of Pharmacology and Toxicology, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI, 53226 USA  
 SOURCE: Hypertension (Baltimore), (Jan., 2000) Vol. 35, No. 1 Part 2, pp. 397-402. ISSN: 0194-911X.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

L3 ANSWER 16 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB We examined whether human cardiac tissue contains diadenosine polyphosphates and investigated their physiological role. Extracts from human cardiac tissue from transplant recipients were fractionated by size exclusion-, affinity-, anion exchange- and reversed-phase chromatography. MALDI-MS analysis of two absorbing fractions revealed molecular masses of 676.2 Da and 756.0 Da. The UV spectra of both fractions were identical to that of **adenosine**. Postsources decay MALDI mass spectrometry indicated that the molecules with a mass of 676.2 Da and 757.0 Da contained AMP and ATP, respectively. As shown by enzymatic cleavage, both molecules consist of two **adenosines** interconnected by either two or three phosphates in 5'-positions of the **riboses**. Two substances can be identified as 5',5'''-P1,P2-diphosphate (Ap2A) and 5',5'''-P1,P3-triphosphate (Ap3A). Ap2A and Ap3A, together with ATP and ADP, are stored in myocardial-specific granules in biologically active concentrations. In the isolated perfused rat heart, Ap2A and Ap3A caused dose-dependent coronary **vasodilations**. In myocardial preparations, Ap2A and Ap3A attenuated the effect of isoproterenol, exerting a negative inotropic effect. The calcium current of guinea pig ventricular myocytes, stimulated by isoproterenol, was also attenuated by Ap2A and Ap3A. The presence of Ap2A and Ap3A in cardiac-specific granules and the actions of these substances on the myocardium and coronary vessels indicate a role for these substances as endogenous modulators of myocardial functions and coronary perfusion.

ACCESSION NUMBER: 1999:215861 BIOSIS  
 DOCUMENT NUMBER: PREV199900215861  
 TITLE: Identification and characterization of diadenosine 5',5'''-P1,P2-diphosphate and diadenosine 5',5'''-P1,P3-triphosphate in human myocardial tissue.  
 AUTHOR(S): Luo, J.; Jankowski, J.; Knobloch, M.; van der Giet, M.; Gardanis, K.; Russ, T.; Vahlensieck, U.; Neumann, J.; Schmitz, W.; Tepel, M.; Deng, M. C.; Zidek, W.; Schlueter, H. (1)  
 CORPORATE SOURCE: (1) Medizinische Klinik I, Universitätsklinik Marienhospital der Ruhr-Universität Bochum, Hoelkeskamp 40, D-44625, Herne Germany  
 SOURCE: FASEB Journal, (April, 1999) Vol. 13, No. 6, pp. 695-705. ISSN: 0892-6638.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

L3 ANSWER 17 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB **Adenosine** consists of one **ribose** and one purine moiety and binds to specific receptors on cell membranes. The receptors are coupled to G-proteins and additionally to various effector-systems. When

a

mismatch occurs between energy supply and energy demand, **adenosine** is produced by the catabolism of **adenosine** triphosphate. The metabolism of an organ is thereby coupled to the local blood supply (metabolic **vasodilation**). In addition to **vasodilation**, **adenosine** has several electrophysiological, cardioprotective, metabolic, and antiinflammatory properties. **Adenosine** is rapidly metabolized in blood and interstitial fluid, through cell absorption and degradation by **adenosine** deaminase. The short half-life of **adenosine** limits its clinical value. However, there are several ways of increasing the interstitial concentration of **adenosine**. At present, **adenosine** or **adenosine**-potentiating substances are used clinically to terminate supraventricular tachycardias,

to induce myocardial ischemia in patients who are unable to exercise, and

to reduce myocardial ischemia or reperfusion injury. Caffeine and other methylxanthines are **adenosine** receptor antagonists, and several of the pharmacodynamic properties of these substances are caused by **adenosine** receptor antagonism.

ACCESSION NUMBER: 1998:224525 BIOSIS

DOCUMENT NUMBER: PREV199800224525

TITLE: Receptor mediated effects of **adenosine** and caffeine.

AUTHOR(S): Eikvar, Lars; Kirkeboen, Knut Arvid

CORPORATE SOURCE: Klinisk Kjemisk Avdeling, Oslo Sanitetsforenings Revmatismesykehus, Rikshospitalet, 0027 Oslo Norway

SOURCE: Tidsskrift for den Norske Laegeforening, (March 30, 1998) Vol. 118, No. 9, pp. 1390-1395.  
ISSN: 0029-2001.

DOCUMENT TYPE: General Review

LANGUAGE: Norwegian

SUMMARY LANGUAGE: Norwegian; English

L3 ANSWER 18 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB Substituting a methyl group for the **ribose** moiety of N-6-substituted **adenosines** that are selective agonists at the **adenosine** A-1 receptor creates antagonists that are A-1-selective. Inasmuch as 2-phenylethoxyadenosine is a selective agonist for the **adenosine** A-2 receptor, 2-phenylethoxy-9-methyl-adenine (PEMA) was synthesized and tested as a potential **adenosine** A-2 receptor antagonist. In guinea pig hearts, PEMA antagonized with the same potency (pK-B apprx 6.1) the A-1-mediated negative dromotropic and inotropic actions and the A-2-mediated coronary vasoactivity of the nonselective **adenosine** receptor agonist 5'-N-ethylcarboxamidoadenosine (NECA). PEMA at concentrations up to 30  $\mu$ -M did not antagonize the NECA-induced relaxations in guinea pig aortic rings. At concentrations exceeding 10  $\mu$ -M, PEMA caused xanthine-insensitive relaxations of both the aorta and the coronary vessels. Pharmacological resultant analysis revealed A-2 receptor antagonism by PEMA in the guinea pig aorta (pK-B = 5.2). The nonselective **adenosine** receptor antagonist 8-p-sulphophenyl-theophylline antagonized NECA responses in all four assays with equal potency (pK-B apprx 5.7). Thus, PEMA does not discriminate between A-2 receptors in the coronary vessels and A-1 receptors in the atria of the guinea pig, but it is 10-fold more potent at antagonizing the A-2 receptor

in coronaries than the A-2 receptors in the aorta. The data suggest that

the A-2 receptors in the coronary vasculature may be of the A-2a subtype, whereas those in the aorta may be of the A-2b subtype.

ACCESSION NUMBER: 1993:302422 BIOSIS  
DOCUMENT NUMBER: PREV199396020647  
TITLE: 2-Phenylethoxy-9-methyladenine: An **adenosine** receptor antagonist that discriminates between A-2 **adenosine** receptors in the aorta and the coronary vessels from the guinea pig.  
AUTHOR(S): Martin, Pauline L. (1); Ueeda, Masayuki; Olsson, Ray A.  
CORPORATE SOURCE: (1) Dep. Pharmacology, Whitby Res., Inc., 2801 Reserve St.,  
Richmond, VA 23220  
SOURCE: Journal of Pharmacology and Experimental Therapeutics, (1993) Vol. 265, No. 1, pp. 248-253.  
ISSN: 0022-3565.  
DOCUMENT TYPE: Article  
LANGUAGE: English

L3 ANSWER 19 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB **Adenosine** and 5'-chloro-5'-deoxyadenosine inhibited the phosphorylation of phosphatidylinositol in membranes prepared from aortic smooth muscle. The nucleosides did not affect the breakdown of phosphatidylinositol-4-phosphate. Under certain conditions, the membrane-bound phosphatidylinositol kinase phosphorylated exogenous phosphatidylinositol. The nucleosides inhibited the enzyme competitively with respect to magnesium-ATP and non-competitively with respect to phosphatidylinositol. **Adenosine** analogs modified in the **ribose** moiety were inhibitors with potencies comparable to that of **adenosine**, whereas adenine nucleotides and purine-modified **adenosine** analogs were much weaker inhibitors. Density gradient fraction studies showed the phosphatidylinositol kinase is primarily associated with the sarcoplasmic reticulum. Vascular smooth muscle contraction is associated with increased phosphatidylinositol turnover. Inhibition of phosphatidylinositol kinase by intracellular **adenosine** may, therefore, be a factor involved in regulating **vasodilation**.

ACCESSION NUMBER: 1987:418054 BIOSIS  
DOCUMENT NUMBER: BA84:84716  
TITLE: INHIBITION OF PHOSPHATIDYLINOSITOL KINASE IN VASCULAR SMOOTH MUSCLE MEMBRANES BY **ADENOSINE** AND RELATED COMPOUNDS.  
AUTHOR(S): DOCTROW S R; LOWENSTEIN J M  
CORPORATE SOURCE: GRADUATE DEP. BIOCHEMISTRY, BRANDEIS UNIV., WALTHAM, MASS. 02254.  
SOURCE: BIOCHEM PHARMACOL, (1987) 36 (14), 2255-2262.  
CODEN: BCPA6. ISSN: 0006-2952.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

L3 ANSWER 20 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB Intracoronary **adenosine** infusions in conscious dogs produced half-maximal coronary **vasodilation** at 0.57  $\pm$  0.18 (SD)  $\mu$ M and at 1.01  $\pm$  0.25  $\mu$ M in open-chest dogs. In both preparations, **adenosine** at concentrations in the range found in cardiac muscle by direct analysis produced coronary **vasodilation** equal to that attained during a maximum reactive hyperemic response. The quantitative structure-activity relationship technique was applied to data on the coronary vasoactivity of 68 **adenosine** analogs to identify the chemical features of this molecule that determine its vasoactivity. These are: the size of the purine base; the inductive effect of the C-2



substituent; the electron-withdrawing effect of the C-6 substituent; the glycosylic torsion angle; the ability of the C-2' and C-3' hydroxyls to participate in H bonding; the absence of sterically hindering groups in the vicinity of C-2' and, more importantly, C-3'; and the inductive effect

of the C-5' substituent. The hydrophobicity of these analogs did not correlate with vasoactivity, suggesting that the hydrophilicity of the **ribose** moiety overshadows any hydrophobic influence of the very weakly aromatic purine base.

ACCESSION NUMBER: 1980:157402 BIOSIS  
DOCUMENT NUMBER: BA69:32398  
TITLE: CORONARY VASOACTIVITY OF **ADENOSINE** IN THE CONSCIOUS DOG.  
AUTHOR(S): OLSSON R A; KHOURI E M; BEDYNEK J L JR; MCLEAN J  
CORPORATE SOURCE: DEP. INTERN. MED., UNIV. S. FLA. COLL. MED., 12901 N. 30TH ST., TAMPA, FLA. 33612, USA.  
SOURCE: CIRC RES, (1979) 45 (4), 468-478.  
CODEN: CIRUAL. ISSN: 0009-7330.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

L3 ANSWER 21 OF 27 CAPLUS COPYRIGHT 2002 ACS

AB Cyclic ADP **ribose** and ADP **ribose** (ADPR) play an important role in the regulation of intracellular Ca<sup>2+</sup> release and K<sup>+</sup> channel activity in the coronary arterial smooth muscle. The role of these signaling nucleotides in the control of vascular tone has yet to be detd. The present study was designed to det. whether ADPR produces **vasodilation** in coronary arteries and to explore the mechanism of action of ADPR. ADPR (10-60 .mu.mol/L) was found to produce endothelium-independent relaxation in a concn.-dependent manner in isolated and pressurized small bovine coronary arteries. The ADPR-induced

**vasodilation** was substantially attenuated by **adenosine** deaminase (0.2 U/mL), and the P1 purinoceptor antagonist 8-(p-sulphophenyl)theophylline (50 .mu.mol/l), with maximal inhibitions of 60 and 80%, resp. When the coronary arterial homogenates were incubated with ADPR, the prodn. of **adenosine** and 5'-AMP was detected. The **adenosine** prodn. was blocked by the 5'-nucleotidase inhibitor, .alpha.,.beta.-methylene ADP (MADP, 1 mmol/L), which was accompanied by a corresponding accumulation of 5'-AMP. This 5'-AMP accumulation was substantially inhibited by the apyrase inhibitor sodium azide (10 mmol/l).

Moreover, ADPR was hydrolyzed into 5'-AMP by purified apyrase. In agreement with their inhibitory effect on the **adenosine** prodn., MADP and sodium azide significantly attenuated the vasodilator response to

ADPR. The metab. of ADPR to **adenosine** was only detected in cultured coronary arterial smooth muscle cells but not in endothelial cells. We concluded that ADPR produces **vasodilation** in small coronary arteries and that the action of ADPR is assocd. with the **adenosine** prodn. via an apyrase- and 5'-nucleotidase-mediated metab.

ACCESSION NUMBER: 2001:175337 CAPLUS  
DOCUMENT NUMBER: 134:324008  
TITLE: **Adenosine** diphosphate **ribose** dilates bovine coronary small arteries through apyrase- and 5'-nucleotidase-mediated metabolism  
AUTHOR(S): Zhang, David X.; Zou, Ai-Ping; Li, Pin-Lan  
CORPORATE SOURCE: Departments of Pharmacology and Toxicology and Physiology, Medical College of Wisconsin, Milwaukee,

WI, USA  
SOURCE: Journal of Vascular Research (2001), 38(1), 64-72  
CODEN: JVREE9; ISSN: 1018-1172  
PUBLISHER: S. Karger AG  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR  
THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE  
FORMAT

L3 ANSWER 22 OF 27 CAPLUS COPYRIGHT 2002 ACS

AB CADP-**ribose** (cADPR) induces the release of Ca<sup>2+</sup> from the intracellular stores of coronary artery smooth muscle cells. However, little is known about the role of cADPR-mediated intracellular Ca<sup>2+</sup> release in the control of vascular tone. The present study examd. the effects of nicotinamide, a specific inhibitor of ADP-ribosylcyclase, on the vascular tone of bovine coronary arteries. A bovine coronary artery homogenate stimulated the conversion of nicotinamide guanine dinucleotide into cGDP-**ribose**, which is a measure of ADP-ribosylcyclase activity. Nicotinamide significantly inhibited the formation of cGDP-**ribose** in a concn.-dependent manner: at a concn. of 10 mmol/L, it reduced the conversion rate from 3.34 nmol .cntdot. min<sup>-1</sup> .cntdot. mg<sup>-1</sup>

of protein in control cells to 1.42 nmol .cntdot. min<sup>-1</sup> .cntdot. mg<sup>-1</sup> of protein in treated cells, a 58% redn. In U46619-precontracted coronary artery rings, nicotinamide produced concn.-dependent relaxation.

Complete relaxation with nicotinamide occurred at a dose of 8 mmol/L; the median inhibitory concn. (IC<sub>50</sub>) was 1.7 mmol/L. In the presence of a cell membrane-permeant cADPR antagonist, 8-bromo-cADPR, nicotinamide-induced vasorelaxation was markedly attenuated. Pretreatment of the arterial rings with ryanodine (50 .mu.mol/L) significantly blunted the vasorelaxation response to nicotinamide. However, iloprost- and **adenosine**-induced vasorelaxation was not altered by 8-bromo-cADPR. Moreover, nicotinamide significantly attenuated KCl- or Bay K8644-induced vasoconstriction by 60% and 70%, resp. These results suggest that the inhibition of cADPR formation by nicotinamide produces vasorelaxation and blunts KCl- and Bay K8644-induced vasoconstriction in coronary arteries and that the cADPR-mediated Ca<sup>2+</sup> signaling pathway plays a role in the control of vascular tone in coronary circulation.

ACCESSION NUMBER: 2000:92237 CAPLUS  
DOCUMENT NUMBER: 132:164068  
TITLE: Inhibition of cADP-**ribose** formation produces **vasodilation** in bovine coronary arteries  
AUTHOR(S): Geiger, Jason; Zou, Ai-Ping; Campbell, William B.;  
Li,

Pin-Lan  
CORPORATE SOURCE: Department of Pharmacology and Toxicology and Physiology, Medical College of Wisconsin, Milwaukee, WI, 53226, USA

SOURCE: Hypertension (2000), 35(1, Pt. 2), 397-402  
CODEN: HPRTDN; ISSN: 0194-911X  
PUBLISHER: Lippincott Williams & Wilkins  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR  
THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE  
FORMAT

L3 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2002 ACS

AB It was examd. whether human cardiac tissue contains diadenosine polyphosphates and investigated their physiol. role. Exts. from human cardiac tissue from transplant recipients were fractionated by size exclusion-, affinity-, anion exchange- and reversed-phase chromatog. MALDI-MS anal. of two absorbing fractions revealed mol. masses of 676.2

Da and 756.0 Da. The UV spectra of both fractions were identical to that of **adenosine**. Postsource decay MALDI mass spectrometry indicated that the mols. with a mass of 676.2 Da and 757.0 Da contained AMP and

ATP, resp. As shown by enzymic cleavage, both mols. consist of two **adenosines** interconnected by either two or three phosphates in 5'-positions of the **ribose**s. Two substances can be identified as 5',5'''-P1,P3-diphosphate (Ap2A) and 5',5'''-P1P3-triphosphate (Ap3A). Ap2A and Ap3A, together with ATP and ADP, are stored in myocardial-specific granules in biol. active concns. In the isolated perfused rat heart, Ap2A and Ap3A caused dose-dependent coronary **vasodilations**. In myocardial prepns., Ap2A and Ap3A attenuated the effect of isoproterenol, exerting a neg. inotropic effect. The calcium current of guinea pig ventricular myocytes, stimulated by isoproterenol, was also attenuated by Ap2A and Ap3A. The presence of

Ap2A and Ap3A in cardiac-specific granules and the actions of these substances on the myocardium and coronary vessels indicate a role for these substances as endogenous modulators of myocardial functions and coronary perfusion. Identification and characterization of diadenosine 5',5'''-P1,P2-diphosphate and diadenosine 5',5'''-P1,P3-triphosphate in human myocardial tissue.

ACCESSION NUMBER: 1999:223818 CAPLUS

DOCUMENT NUMBER: 131:16963

TITLE: Identification and characterization of diadenosine 5',5'''-P1,P2-diphosphate and diadenosine 5',5'''-P1,P3-triphosphate in human myocardial tissue

AUTHOR(S): Luo, J.; Jankowski, J.; Knobloch, M.; Van der giet, M.; Gardanis, K.; Russ, T.; Vahlensieck, U.; Neumann, J.; Schmitz, W.; Tepel, M.; Deng, M. C.; Zidek, W.; Schluter, H.

CORPORATE SOURCE: Medizinische Klinik I, Universitätsklinik Marienhospital der Ruhr-Universität Bochum, Herne, D-44625, Germany

SOURCE: FASEB Journal (1999), 13(6), 695-705

CODEN: FAJOEC; ISSN: 0892-6638

PUBLISHER: Federation of American Societies for Experimental Biology

DOCUMENT TYPE: Journal

LANGUAGE: English

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L3 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2002 ACS

AB The pharmacol. actions of the purine nucleotides .beta.-NAD, .beta.-NADP, ADP-**ribose**, the vitamin nicotinamide and structural analogs of NAD and NADP were tested in the isolated perfused mesenteric arterial bed of the rat. Prejunctional effects of NAD were tested against sympathetic vasoconstriction at basal tone, and against sensory-motor vasodilatation at raised tone. NAD and NADP had no vasoconstrictor action but were weak

vasodilators of the raised-tone mesenteric arterial bed. A rank order of vasodilator potency of ADP .mchgt. ADP-ribose .mchgt. NADP .gtoreq. NAD = adenosine was obsd. The P1-purinoceptor antagonist, 8-para-sulfophenyl-theophylline (8-pSPT; 3 .mu.M) inhibited vasodilator responses to NAD (pKB of 6.61) and adenosine (pKB of 5.78), but not those elicited by NADP, ADP and ADP-ribose. Nicotinamide, and analogs of NAD and NADP, namely nicotinamide-1,N6-etheno adenine dinucleotide phosphate, .beta.-NMN, nicotinamide hypoxanthine dinucleotide phosphate, nicotinamide hypoxanthine dinucleotide, nicotinamide guanine dinucleotide, and nicotinamide-1,N6-etheno adenine dinucleotide had no vasoconstrictor or vasodilator actions (at doses of .ltoreq.50 nmol). At basal tone, elec. field stimulation (EFS) (32 Hz, 1 ms, 90 V, 5 s) at 2 min intervals elicited reproducible vasoconstrictor responses due to activation of sympathetic nerves. NAD and adenosine (10-100 .mu.M) inhibited these responses in a concn.-dependent manner with similar potencies. Nicotinamide had no effect on sympathetic vasoconstriction at concns. of .ltoreq.0.1 mM. Postjunctional effects of NAD (100 .mu.M), as tested on constrictor response to NA (5 nmol), accounted for .apprx.60% inhibition at this concn. In preps. in which tone had been raised with methoxamine (10-40 .mu.M), EFS (8 Hz, 0.1 ms, 60 V, for 30 s) elicited vasodilatation due to activation of sensory-motor nerves. This vasodilation was inhibited by NAD and adenosine (0.1-100 .mu.M) in a similar concn.-dependent manner: pD2 values were 6.2 and 6.1 for NAD and adenosine resp. Nicotinamide had no effect on sensory-motor vasodilatation at concns. of .ltoreq.0.1 mM. Inhibition of sympathetic constriction by NAD and adenosine was antagonized by 8-pSPT (3 .mu.M). Inhibitory effects of NAD and adenosine on sensory-motor vasodilation were similarly antagonized by 8-pSPT (1 .mu.M), pKB values were 6.72 for NAD and 6.36 for adenosine, resulting in parallel rightward shifts in the concn.-inhibitory effect curves. The adenosine deaminase inhibitor, pentostatin (1 .mu.M), augmented the inhibitory effects of NAD and adenosine. Concn.-inhibitory effect curves for NAD and adenosine on sympathetic vasoconstriction and sensory-motor vasodilation were shifted to the left without a change in the max. It is concluded that

NAD

can act as a modulator of sympathetic and sensory-motor transmission in rat mesenteric arteries via P1-purinoceptors possibly via direct actions but with a contribution of adenosine formed following breakdown of NAD or released pre- and/or postjunctionally. Structure-activity relationships of NAD, NADP, ADP and ADP-ribose showed that the P1-purinoceptor activity of NAD is abolished after removal of nicotinamide, or ribose plus nicotinamide, to yield the structurally-related ADP-ribose and ADP resp., or when there is phosphorylation of the 2'-hydroxyl group of NAD to yield NADP.

ACCESSION NUMBER: 1995:526198 CAPLUS  
DOCUMENT NUMBER: 122:307049  
TITLE: Modulation by nicotinamide adenine dinucleotide of sympathetic and sensory-motor neurotransmission via P1-purinoceptors in the rat mesenteric arterial bed  
AUTHOR(S): Ralevic, Vera  
CORPORATE SOURCE: Department Anatomy Developmental Biology, University College London, London, WC1E 6BT, UK  
SOURCE: British Journal of Pharmacology (1995), 114(8), 1541-8  
CODEN: BJPCBM; ISSN: 0007-1188  
PUBLISHER: Stockton  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L3 ANSWER 25 OF 27 CAPLUS COPYRIGHT 2002 ACS

AB **Adenosine** 5'-chloro-5'-deoxyadenosine inhibited the phosphorylation of phosphatidylinositol in membranes prep'd. from aortic smooth muscle. The nucleosides did not affect the breakdown of phosphatidylinositol 4-phosphate. Under certain conditions, the membrane-bound phosphatidylinositol kinase phosphorylated exogenous phosphatidylinositol. The nucleosides inhibited the enzyme competitively with respect to Mg-ATP and noncompetitively with respect to phosphatidylinositol. **Adenosine** analogs modified in the **ribose** moiety were inhibitors with potencies comparable to that of **adenosine**, whereas adenine nucleotides and purine-modified **adenosine** analogs were much weaker inhibitors. D. gradient fractionation studies showed that phosphatidylinositol kinase is primarily assoc'd. with the sarcoplasmic reticulum. Since vascular smooth muscle contraction is assoc'd. with increased phosphatidylinositol turnover, inhibition of phosphatidylinositol kinase by intracellular **adenosine** may be a factor involved in regulating **vasodilation**.

ACCESSION NUMBER: 1987:593874 CAPLUS  
DOCUMENT NUMBER: 107:193874  
TITLE: Inhibition of phosphatidylinositol kinase in vascular smooth muscle membranes by **adenosine** and related compounds  
AUTHOR(S): Doctrow, Susan R.; Lowenstein, John M.  
CORPORATE SOURCE: Grad. Dep. Biochem., Brandeis Univ., Waltham, MA, 02254, USA  
SOURCE: Biochemical Pharmacology (1987), 36(14), 2255-62  
CODEN: BCPA6; ISSN: 0006-2952  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L3 ANSWER 26 OF 27 CAPLUS COPYRIGHT 2002 ACS

AB Intracoronary **adenosine** [58-61-7] infusions into conscious dogs produced half-maximal coronary **vasodilation** at 0.57 .mu.M, similar activity was shown by 1.01 .mu.M **adenosine** in open-chest dogs. In both prepns., **adenosine** at concns. in the range found in cardiac muscle by direct anal. produced coronary **vasodilation** equal to that attained during a max. reactive hyperemic response. The quant. structure-activity relationship technique was applied to data on the coronary vasoactivity of 68 **adenosine** analogs to identify the chem. features of this mol. that det. its vasoactivity. These are: (1) the size of the purine base; (2) the inductive effect of the C-2 substituent; (3) the electron-withdrawing effect of the C-6 substituent; (4) the glycosylic torsion angle; (5) the ability of the C-2' and C-3'-hydroxyls to participate in H bonding; (6) the absence of sterically hindering groups in the vicinity of C-2' and, more importantly, C-3'; and (7) the inductive effect of the C-5' substituent. The hydrophobicity of these analogs did not correlate with vasoactivity. The hydrophilicity of the **ribose** moiety apparently overshadows any hydrophobic influence of the very weakly arom. purine base.

ACCESSION NUMBER: 1980:353 CAPLUS  
DOCUMENT NUMBER: 92:353  
TITLE: Coronary vasoactivity of **adenosine** in the conscious dog  
AUTHOR(S): Olsson, Ray A.; Khouri, Edward M.; Bedynek, Julius L., Jr.; McLean, John  
CORPORATE SOURCE: Dep. Cardiorespiratory Dis., Walter Reed Army Inst.

SOURCE: Res., Washington, DC, USA  
Circ. Res. (1979), 45(4), 468-78  
CODEN: CIRUAL; ISSN: 0009-7330  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L3 ANSWER 27 OF 27 CAPLUS COPYRIGHT 2002 ACS  
AB **Adenosine** [58-61-7] (1 mM) infused intraarterially into a perfused dog hind limb prepn. resulted in a max. decrease in femoral arterial pressure of 40 mmHg; half-max. **vasodilation** was produced by 10 .mu.M **adenosine**. Withdrawal of stimulation of the sympathetic nerve to the limb did not abolish the response. **Adenosine** (1 .mu.M) also induced a small redn. in perfusion pressure in the superficial metatarsal vein. Infusion of adenine [73-24-5], **ribose** moieties, or nucleosides at concns. up to 10 times that required to produce max. **vasodilation** with **adenosine**, did not produce a fall of arterial resistance of >5%. Similarly, infusion of Na3PO4 (<100 mM) had little effect.

ACCESSION NUMBER: 1979:502885 CAPLUS  
DOCUMENT NUMBER: 91:102885  
TITLE: **Adenosine** and hind-limb vascular resistance in the dog  
AUTHOR(S): Cotterrell, D.; Karim, F.  
CORPORATE SOURCE: Dep. Physiol., Univ. Leeds, Leeds, Engl.  
SOURCE: J. Physiol. (London) (1979), 290 47P  
CODEN: JPHYA7; ISSN: 0022-3751  
DOCUMENT TYPE: Journal  
LANGUAGE: English

=> s 2',3'-O-isopropylidene(w)ribose?  
L4 0 2',3'-O-ISOPROPYLIDENE(W) RIBOSE?

=> s 2',3'-O-isopropylidene ribose?  
L5 0 2',3'-O-ISOPROPYLIDENE RIBOSE?

=> fil reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	69.17	69.59
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-4.34	-4.34

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DICTIONARY FILE UPDATES: 20 NOV 2002 HIGHEST RN 474043-36-2

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<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> e 2',3'-O-isopropylidene ribose/cn

```
E1      1      2,3-O-DIPALMITOYL-SN-GLYCEROL/CN
E2      1      2,3-O-ETHYLIDENE-D-ERYTHRONOLACTONE/CN
E3      0 --> 2,3-O-ISOPROPYLIDENE RIBOSE/CN
E4      1      2,3-O-ISOPROPYLIDENE-.ALPHA.-L-RHAMNOFURANOSYLAMINE
P-TOLUEN
          ESULPHONATE/CN
E5      1      2,3-O-ISOPROPYLIDENE-.ALPHA.-L-SORBOFURANOSE/CN
E6      1      2,3-O-ISOPROPYLIDENE-.BETA.-D-APIOSE/CN
E7      1
2,3-O-ISOPROPYLIDENE-.BETA.-D-RIBOFURANOSYLAMINE-P-TOLUENESU
          LFONATE/CN
E8      1      2,3-O-ISOPROPYLIDENE-.BETA.-D-THREO-PENTULOSONIC ACID/CN
E9      1      2,3-O-ISOPROPYLIDENE-.BETA.-D-THREO-PENTULOSONIC ACID
POTASS
          IUM SALT/CN
E10     1      2,3-O-ISOPROPYLIDENE-.BETA.-D-XYLULOOFURANOSE/CN
E11     1
2,3-O-ISOPROPYLIDENE-1,4-BIS-O-(METHYLSULFONYL)-D-THREITOL/C
          N
E12     1      2,3-O-ISOPROPYLIDENE-1,4-DI-O-METHYL-L-THREITOL/CN
```

=> d e10

L5 HAS NO ANSWERS

L5 0 SEA 2',3'-O-ISOPROPYLIDENE RIBOSE?

=> s e10

L6 1 "2,3-O-ISOPROPYLIDENE-.BETA.-D-XYLULOOFURANOSE"/CN

=> d rn cn

```
L6      ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN      25018-68-2  REGISTRY
CN      .beta.-D-threo-2-Pentulofuranose, 2,3-O-(1-methylethylidene)- (9CI)  (CA
        INDEX NAME)
```

OTHER CA INDEX NAMES:

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CN      D-threo-Pentulofuranose, 2,3-O-isopropylidene- (6CI)
CN      D-threo-Pentulofuranose, 2,3-O-isopropylidene-, .beta.- (8CI)
CN      Furo[2,3-d]-1,3-dioxole, .beta.-D-threo-2-pentulofuranose deriv.
```

OTHER NAMES:

CN 2,3-O-Isopropylidene-.beta.-D-xylulofuranose

=> d l6

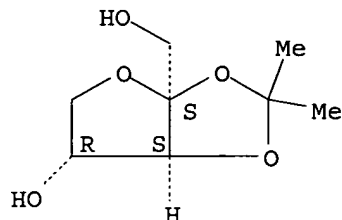
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L6      ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN      25018-68-2  REGISTRY
CN      .beta.-D-threo-2-Pentulofuranose, 2,3-O-(1-methylethylidene)- (9CI)  (CA
        INDEX NAME)
```

OTHER CA INDEX NAMES:

CN D-threo-Pentulofuranose, 2,3-O-isopropylidene- (6CI)

CN D-threo-Pentulofuranose, 2,3-O-isopropylidene-, .beta.- (8CI)  
 CN Furo[2,3-d]-1,3-dioxole, .beta.-D-threo-2-pentulofuranose deriv.  
 OTHER NAMES:  
 CN **2,3-O-Isopropylidene-.beta.-D-xylulofuranose**  
 FS STEREOSEARCH  
 MF C8 H14 O5  
 LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

8 REFERENCES IN FILE CA (1962 TO DATE)  
 8 REFERENCES IN FILE CAPLUS (1962 TO DATE)  
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> e 2,3-O-isopropylidene ribose/cn

E1	1	2,3-O-DIPALMITOYL-SN-GLYCEROL/CN
E2	1	2,3-O-ETHYLIDENE-D-ERYTHRONOLACTONE/CN
E3	0 -->	2,3-O-ISOPROPYLIDENE RIBOSE/CN
E4	1	2,3-O-ISOPROPYLIDENE-.ALPHA.-L-RHAMNOFURANOSYLAMINE
P-TOLUEN		ESULPHONATE/CN
E5	1	2,3-O-ISOPROPYLIDENE-.ALPHA.-L-SORBOFURANOSE/CN
E6	1	2,3-O-ISOPROPYLIDENE-.BETA.-D-APIOSE/CN
E7	1	
2,3-O-ISOPROPYLIDENE-.BETA.-D-RIBOFURANOSYLAMINE-P-TOLUENESU		LFONATE/CN
E8	1	2,3-O-ISOPROPYLIDENE-.BETA.-D-THREO-PENTULOSONIC ACID/CN
E9	1	2,3-O-ISOPROPYLIDENE-.BETA.-D-THREO-PENTULOSONIC ACID
POTASS		IUM SALT/CN
E10	1	2,3-O-ISOPROPYLIDENE-.BETA.-D-XYLULOFURANOSE/CN
E11	1	
2,3-O-ISOPROPYLIDENE-1,4-BIS-O-(METHYLSULFONYL)-D-THREITOL/C		N
E12	1	2,3-O-ISOPROPYLIDENE-1,4-DI-O-METHYL-L-THREITOL/CN

=> fil .carb

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	10.58	80.17
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-4.34



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=> s 2,3-O-isopropylidene ribose  
L7 0 2,3-O-ISOPROPYLIDENE RIBOSE

=> s 2,3-O-isopropylidene(2a)ribose  
L8 55 2,3-O-ISOPROPYLIDENE(2A) RIBOSE

=> s l8 and adenosine?  
L9 0 L8 AND ADENOSINE?

=> s l8 and vasodilation?  
L10 0 L8 AND VASODILATION?

=> s l8 and purine?  
L11 1 L8 AND PURINE?

=> d l11

L11 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:331681 CAPLUS  
TI Cyclonucleosides.  
AU Brajeswar, Paul; Mayer, Bruce F.; Porter, Carl  
CS Roswell Park Cancer Institute, Grace Cancer Drug Center, Buffalo, NY,  
14263-0001, USA  
SO Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March  
26-30, 2000 (2000), MEDI-079 Publisher: American Chemical Society,  
Washington, D. C.  
CODEN: 69CLAC  
DT Conference; Meeting Abstract  
LA English

=> d l11 abs ibib

L11 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
AB Pyrimidine and **purine** cyclonucleosides are of interest for  
making modification to the ribose moiety. We have reported the synthesis  
of 2'-hydroxy-and 3'-hydroxyftorafur using 2,2'-O-pyrimidine  
cyclonucleoside (Abstr. 205th Am. Chem. Soc. Nat. Mtg., Denver, CO, Mar.  
28-Apr. 2, 1993, MEDI 24). A pyrimidine cyclonucleoside was obtained when  
an aq. soln. of 1-(2'-azido-2'-deoxy-.beta.--arabinofuranosyl)cytosine  
was  
heated, leading to 6, 2'-imino-2'-deoxy-.beta.-D-arabinofuranosylcytosine  
(Abstr. 2nd Chem. Congress on the North American Continent, San Francisco,  
CA, August 1980, CARB 6). Currently we are working on the synthesis of  
**purine** cyclonucleosides, in particular 8,5'-O-and  
8,5'-S-cycloadenosine. As reported in the literature, it is necessary to  
block 2',3'-hydroxyl groups of D-**ribose** as in 2',

**3'-O-isopropylidene** to facilitate the cyclisation. Removal of the isopropylidene protecting group under acidic condition took a longer time when compared to that of 2',3'-O-isopropylidene **purine** nucleoside. Cyclonucleosides are rigid mols. and this may affect chem. reactivity. The synthesis NMR mol. modeling data and conformational anal. will be presented (Supported by

NIH

Grant 16056).

ACCESSION NUMBER: 2000:331681 CAPLUS  
TITLE: Cyclonucleosides.  
AUTHOR(S): Brajeswar, Paul; Mayer, Bruce F.; Porter, Carl  
CORPORATE SOURCE: Roswell Park Cancer Institute, Grace Cancer Drug Center, Buffalo, NY, 14263-0001, USA  
SOURCE: Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000 (2000), MEDI-079. American Chemical Society: Washington, D. C.  
CODEN: 69CLAC  
DOCUMENT TYPE: Conference; Meeting Abstract  
LANGUAGE: English

=> d 18 1-55

L8 ANSWER 1 OF 55 MEDLINE  
AN 90112400 MEDLINE  
DN 90112400 PubMed ID: 2296029  
TI Growth inhibition and induction of cellular differentiation of human myeloid leukemia cells in culture by carbamoyl congeners of ribavirin.  
AU Sanghvi Y S; Bhattacharya B K; Kini G D; Matsumoto S S; Larson S B; Jolley W B; Robins R K; Revankar G R  
CS ICN Nucleic Acid Research Institute, Costa Mesa, California 92626.  
SO JOURNAL OF MEDICINAL CHEMISTRY, (1990 Jan) 33 (1) 336-44.  
Journal code: 9716531. ISSN: 0022-2623.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199002  
ED Entered STN: 19900328  
Last Updated on STN: 19970203  
Entered Medline: 19900222

L8 ANSWER 2 OF 55 MEDLINE  
AN 76005891 MEDLINE  
DN 76005891 PubMed ID: 1171879  
TI C-nucleoside studies. Part II. Pentofuranosylethynes from 2, **3-O-isopropylidene-D-ribose**.  
AU Buchanan J G; Dunn A D; Edgar A R  
SO JOURNAL OF THE CHEMICAL SOCIETY. PERKIN TRANSACTIONS 1, (1975) (13) 1191-200.  
Journal code: 7505598. ISSN: 0300-922X.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 197511  
ED Entered STN: 19900313  
Last Updated on STN: 19900313  
Entered Medline: 19751126

L8 ANSWER 3 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1992:365193 BIOSIS  
DN BA94:47243  
TI CONFORMATIONAL VARIABILITY IN MODIFIED NUCLEOSIDES CRYSTAL AND MOLECULAR  
STRUCTURE OF 2' 3'-O ISOPROPYLIDENE INOSINE.  
AU MANDE S S; SHAMALA N; SESHADRI T P; VISWAMITRA M A  
CS DEP. PHYSICS JAWAHARLAL NEHRU CENTRE ADVANCED SCIENTIFIC RESEARCH, INDIAN  
INST. SCI., BANGALORE-560 012, INDIA.  
SO NUCLEOSIDES NUCLEOTIDES, (1992) 11 (5), 1103-1114.  
CODEN: NUNUD5. ISSN: 0732-8311.  
FS BA; OLD  
LA English

L8 ANSWER 4 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1990:134340 BIOSIS  
TI GROWTH INHIBITION AND INDUCTION OF CELLULAR DIFFERENTIATION OF HUMAN  
MYELOID LEUKEMIA CELLS IN CULTURE BY CARBAMOYL CONGENERS OF RIBAVIRIN.  
AU SANGHVI Y S; BHATTACHARYA B K; KINI G D; MATSUMOTO S S; LARSON S B;  
JOLLEY  
W B; ROBINS R K; REVANKAR G R  
CS ICI NUCLEIC ACID RES. INST., 330 HYLAND AVE., COSTA MESA, CALIF. 92626.  
SO J MED CHEM, (1990) 33 (1), 336-344.  
CODEN: JMCMAR. ISSN: 0022-2623.  
FS BA; OLD  
LA English

L8 ANSWER 5 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1989:90085 BIOSIS  
DN BA87:44221  
TI ALDOL REACTION OF REDUCING SUGARS CONVENIENT STEREOSELECTIVE SYNTHESIS OF  
RIBOFURANOSYLACETONE AND CHIRAL DIENONES.  
AU CALVO-MATEO A; CAMARASA M-J; DIAZ-ORTIZ A; DE LAS HERAS F G; ALEMANY A  
CS INSTITUTO DE QUIMICA MEDICA, C.S.I.C., JUAN DE LA CIERVA 3, 28006-MADRID,  
SPAIN.  
SO J CHEM SOC PERKIN TRANS I, (1988) 0 (10), 2861-2864.  
CODEN: JCPRB4. ISSN: 0300-922X.  
FS BA; OLD  
LA English

L8 ANSWER 6 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1988:500179 BIOSIS  
DN BA86:120863  
TI VINYLATION-ELECTROPHILIC CYCLIZATION OF ALDOPENTOSE EASY AND  
STEREOSELECTIVE ACCESS OF C GLYCOPYRANOSIDES OF RARE SUGARS.  
AU BOSCHETTI A; NICOTRA F; PANZA L; RUSSO G  
CS DIP. CHIM. ORG. INDUSTRIALE DELL'UNIV., CENT. STUDIO SOSTANZE ORG.  
NATURALI CNR, VIA VENEZIAN 21, 20133 MILANO, ITALY.  
SO J ORG CHEM, (1988) 53 (18), 4181-4185.  
CODEN: JOCEAH. ISSN: 0022-3263.  
FS BA; OLD  
LA English

L8 ANSWER 7 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1988:283219 BIOSIS  
DN BA86:11486  
TI STEREOSELECTIVE CYCLIZATIONS OF UNSATURATED ESTERS DERIVED FROM 2  
3-O ISOPROPYLIDENE-D-RIBOSE.  
AU DREW M G B; KANE P D; MANN J; NAILI M  
CS DEP. CHEM., UNIV. READING, WHITEKNIGHTS, P.O. BOX 224, READING,  
BERKSHIRE,

RG6 2AD.

SO J CHEM SOC PERKIN TRANS I, (1988) 0 (3), 433-438.  
CODEN: JCPRB4. ISSN: 0300-922X.

FS BA; OLD  
LA English

L8 ANSWER 8 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1988:182079 BIOSIS  
DN BA85:94181  
TI AN ALTERNATIVE TOTAL SYNTHETIC APPROACH TOWARD OCTOSYL ACID A.  
AU KOZAKI S; SAKANAKA O; YASUDA T; SHIMIZU T; OGAWA S; SUAMI T  
CS DEP. APPLIED CHEM., FAC. SCI. AND TECHNOL., KEIO UNIV., HIYOSHI,  
YOKOHAMA,  
223 JAPAN.

SO J ORG CHEM, (1988) 53 (2), 281-286.  
CODEN: JOCEAH. ISSN: 0022-3263.

FS BA; OLD  
LA English

L8 ANSWER 9 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1988:129743 BIOSIS  
DN BA85:64570  
TI ENANTIOSPECIFIC SYNTHESIS OF DEXTRO RETRONECINE DEXTRO CROTONECINE AND  
RELATED ALKALOIDS.

AU BUCHANAN J G; JIGAJINNI V B; SINGH G; WIGHTMAN R H  
CS DEP. CHEM., HERIOT-WATT UNIV., RICcarton, EDINBURGH EH14 4AS.  
SO J CHEM SOC PERKIN TRANS I, (1987) 0 (11), 2377-2384.  
CODEN: JCPRB4. ISSN: 0300-922X.

FS BA; OLD  
LA English

L8 ANSWER 10 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1986:217986 BIOSIS  
DN BA81:109286  
TI TWO TOTAL SYNTHESSES OF SHOWDOMYCIN AND RELATED STUDIES.

AU BARRETT A G M; BROUGHTON H B; ATTWOOD S V; GUNATILAKA A A L  
CS DEP. CHEM., NORTHEASTERN UNIV., EVANSTON, ILL. 60201.  
SO J ORG CHEM, (1986) 51 (4), 495-503.  
CODEN: JOCEAH. ISSN: 0022-3263.

FS BA; OLD  
LA English

L8 ANSWER 11 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1985:432281 BIOSIS  
DN BA80:102273  
TI A NEW SYNTHESIS OF LEVO ANISOMYCIN AND ITS DEMETHOXY ANALOG FROM D  
RIBOSE.

AU BUCHANAN J G; MACLEAN K A; WIGHTMAN R H; PAULSEN H  
CS DEP. CHEM., HERIOT-WATT UNIV., EDINBURGH EH14 4AS.  
SO J CHEM SOC PERKIN TRANS I, (1985) 0 (7), 1463-1470.  
CODEN: JCPRB4. ISSN: 0300-922X.

FS BA; OLD  
LA English

L8 ANSWER 12 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1982:308145 BIOSIS  
DN BA74:80625  
TI SYNTHESIS OF 4 5 DI DEOXY-4-C-R S-PHENYLPHOSPHINYL-D RIBO FURANOSE AND L  
LYXO FURANOSE AND THEIR 1 2 3 TRI ACETATES.

AU YAMAMOTO H; NAKAMURA Y; KAWAMOTO H; INOKAWA S; YAMASHITA M; ARMOUR M-A;

NAKASHIMA T T  
 CS DEP. CHEM., FAC. SCI., OKAYAMA UNIV., OKAYAMA 700, JPN.  
 SO CARBOHYDR RES, (1982) 102 (0), 185-196.  
 CODEN: CRBRAT. ISSN: 0008-6215.  
 FS BA; OLD  
 LA English

L8 ANSWER 13 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1979:211441 BIOSIS  
 DN BA68:13945  
 TI A NOVEL SYNTHESIS OF RIBAVIRIN AND RELATED NUCLEOSIDES.  
 AU WITKOWSKI J T; CHRISTENSEN L F; ROBINS R K  
 CS SCHERING CORP., BLOOMFIELD, N.J. 07003, USA.  
 SO J CARBOHYDR NUCLEOSIDES NUCLEOTIDES, (1978) 5 (4), 363-372.  
 CODEN: JCNNAF. ISSN: 0094-0585.  
 FS BA; OLD  
 LA English

L8 ANSWER 14 OF 55 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1979:210720 BIOSIS  
 DN BA68:13224  
 TI BRANCHED CHAIN SUGARS REACTION OF FURANOSES WITH FORMALDEHYDE A  
 STEREOSPECIFIC SYNTHESIS OF L DENDRO KETOSE.  
 AU HO P-T  
 CS DIV. BIOL. SCI., NATL. RES. COUNC. CAN., OTTAWA, ONT. K1A 0R6, CAN.  
 SO CAN J CHEM, (1979) 57 (4), 384-386.  
 CODEN: CJCHAG. ISSN: 0008-4042.  
 FS BA; OLD  
 LA English

L8 ANSWER 15 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 2002:325108 CAPLUS  
 DN 137:86205  
 TI 4,4-Dimethyl-3,5,8,10-tetraoxatricyclo[5.2.1.0<sup>2,6</sup>]decane  
 AU Light, Mark E.; Murphy, Patrick J.; Brown, Paul M.; Hursthouse, Michael  
 B.  
 CS Department of Chemistry, University of Southampton, Hampshire,  
 Southampton, SO17 1BJ, UK  
 SO Acta Crystallographica, Section E: Structure Reports Online (2002),  
 E58(5), o560-o561  
 CODEN: ACSEBH; ISSN: 1600-5368  
 URL: <http://journals.iucr.org/e/issues/2002/05/00/ya6101/ya6101.pdf>  
 PB International Union of Crystallography  
 DT Journal; (online computer file)  
 LA English

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 16 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 2001:774516 CAPLUS  
 TI 2,5-Dihydroxy-3,4-O-isopropylidene-tetrahydrofuran for the synthesis of  
 heterocycles  
 AU Van denHeuvel, Marco; Sayers, Mick; Singh, Gurdial  
 CS Dep. Chem., Univ. Sunderland, Sunderland, SR1 3SD, UK  
 SO ARKIVOC (2000), 1(5), 748-754  
 CODEN: AKVCFI  
 URL: <http://www.arkat.org/arkat/journal/Issue5/ms0075/ms0075.pdf>  
 PB ARKAT Foundation  
 DT Journal; (online computer file)  
 LA English

L8 ANSWER 17 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 2001:300907 CAPLUS  
 DN 134:311400  
 TI Hybridization probes containing cytosine derivs. capable of forming two hydrogen bonds specifically with guanine base  
 IN Otsuka, Masami; Yamazaki, Tetsurou; Gunji, Shigemichi; Yu, Fujio  
 PA Mitsubishi Rayon Co., Ltd., Japan; Genox Research, Inc.  
 SO PCT Int. Appl., 20 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001029258	A1	20010426	WO 2000-JP7189	20001017
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRAI	JP 1999-296746	A	19991019		
OS	MARPAT 134:311400				
RE.CNT	4	THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT			

L8 ANSWER 18 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 2000:331681 CAPLUS  
 TI Cyclonucleosides.  
 AU Brajeswar, Paul; Mayer, Bruce F.; Porter, Carl  
 CS Roswell Park Cancer Institute, Grace Cancer Drug Center, Buffalo, NY, 14263-0001, USA  
 SO Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000 (2000), MEDI-079 Publisher: American Chemical Society, Washington, D. C.  
 CODEN: 69CLAC  
 DT Conference; Meeting Abstract  
 LA English

L8 ANSWER 19 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 2000:234184 CAPLUS  
 DN 133:58985  
 TI Synthesis of C2-dl-2,3-O-  
**isopropylidene-D-ribose**  
 AU Kundu, Mrinal K.; Foldesi, Andras; Chattopadhyaya, Jyoti  
 CS Department of Bioorganic Chemistry, Uppsala University, Uppsala, S-751 23, Swed.  
 SO Collection Symposium Series (1999), 2 (Chemistry of Nucleic Acid Components), 47-52  
 CODEN: CSYSFN  
 PB Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic  
 DT Journal  
 LA English  
 OS CASREACT 133:58985

RE.CNT 27      THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8    ANSWER 20 OF 55    CAPLUS    COPYRIGHT 2002 ACS  
AN    1997:630786    CAPLUS  
DN    127:262997  
TI    Preparation of .beta.-C azanucleoside derivatives as glycosidase  
      inhibitors  
IN    Yokoyama, Masataka; Togo, Hideo  
PA    Nihon Nohyaku Co., Ltd., Japan  
SO    Jpn. Kokai Tokkyo Koho, 4 pp.  
      CODEN: JKXXAF  
DT    Patent  
LA    Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09249664	A2	19970922	JP 1996-81019	19960309
OS	CASREACT 127:262997; MARPAT 127:262997				

L8    ANSWER 21 OF 55    CAPLUS    COPYRIGHT 2002 ACS  
AN    1997:443821    CAPLUS  
DN    127:121946  
TI    Enantiospecific synthesis of (-)-5-epi-shikimic acid and (-)-shikimic  
      acid  
AU    Jiang, Shende; McCullough, Kevin J.; Mekki, Boualem; Singh, Gurdial;  
      Wightman, Richard H.  
CS    Dep. Chem., Univ. Sunderland, Sunderland, SR1 3SD, UK  
SO    Journal of the Chemical Society, Perkin Transactions 1: Organic and  
      Bio-Organic Chemistry (1997), (12), 1805-1814  
      CODEN: JCPRB4; ISSN: 0300-922X  
PB    Royal Society of Chemistry  
DT    Journal  
LA    English  
OS    CASREACT 127:121946

L8    ANSWER 22 OF 55    CAPLUS    COPYRIGHT 2002 ACS  
AN    1997:323076    CAPLUS  
DN    127:65714  
TI    Solvent and salt dependent 1,3-dipolar cycloaddition: synthesis of  
      isoxazolidino- and isoxazolino-carbocycles  
AU    Bar, Narayan C.; Roy, Atanu; Patra, Ranjan; Achari, Basudeb; Mandal,  
      Sukhendu B.  
CS    Indian Institute of Chemical Biology, Calcutta, 700 032, India  
SO    Indian Journal of Chemistry, Section B: Organic Chemistry Including  
      Medicinal Chemistry (1997), 36B(3), 275-277  
      CODEN: IJSBDB; ISSN: 0376-4699  
PB    National Institute of Science Communication  
DT    Journal  
LA    English  
OS    CASREACT 127:65714

L8    ANSWER 23 OF 55    CAPLUS    COPYRIGHT 2002 ACS  
AN    1997:81650    CAPLUS  
DN    126:157681  
TI    Stereoselective benzylic .alpha.-acylamino radical cyclization: a model  
      study for the Tacaman indole alkaloid skeleton  
AU    Clauss, Rainer; Hunter, Roger  
CS    Dep. Chem., Univ. Cape Town, Rondebosch, 7700, S. Afr.  
SO    Journal of the Chemical Society, Perkin Transactions 1: Organic and

Bio-Organic Chemistry (1997), (1), 71-76  
 CODEN: JCPRB4; ISSN: 0300-922X  
 PB Royal Society of Chemistry  
 DT Journal  
 LA English

L8 ANSWER 24 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1996:198376 CAPLUS  
 DN 124:344020  
 TI Synthesis of bestatin, a potent inhibitor of leukotriene A4 hydrolase, by an N3 nucleophile reaction to a non-protected diol  
 AU Koseki, Koshi; Ebata, Takashi; Matsushita, Hajime  
 CS Japan Tobacco Inc., Life Science Research Laboratory, Kanagawa, 227, Japan  
 SO Bioscience, Biotechnology, and Biochemistry (1996), 60(3), 534-6  
 CODEN: BBBIEJ; ISSN: 0916-8451  
 PB Japan Society for Bioscience, Biotechnology, and Agrochemistry  
 DT Journal  
 LA English  
 OS CASREACT 124:344020

L8 ANSWER 25 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1996:158254 CAPLUS  
 DN 124:343890  
 TI Synthesis of a new inhibitor of .alpha.-fucosidase  
 AU Igarashi, Yasuhiro; Ichikawa, Mie; Ichikawa, Yoshitaka  
 CS Dep. Pharmacology and Mol. Sci., Johns Hopkins Univ. School of Medicine, Baltimore, MD, 21205, USA  
 SO Bioorganic & Medicinal Chemistry Letters (1996), 6(5), 553-8  
 CODEN: BMCLE8; ISSN: 0960-894X  
 PB Elsevier  
 DT Journal  
 LA English  
 OS CASREACT 124:343890

L8 ANSWER 26 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1996:154377 CAPLUS  
 DN 124:343889  
 TI Double asymmetric iodoamination; synthesis of C2 symmetric and meso-amino alcohols  
 AU Kang, Sung Ho; Ryu, Do Hyun  
 CS Dep. Chem., Korea Adv. Inst. Sci. Technol., Taejon, 305-701, S. Korea  
 SO Chemical Communications (Cambridge) (1996), (3), 355-6  
 CODEN: CHCOFS; ISSN: 1359-7345  
 PB Royal Society of Chemistry  
 DT Journal  
 LA English

L8 ANSWER 27 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1996:84647 CAPLUS  
 DN 124:232945  
 TI A New Synthetic Approach to the Carbocyclic Core of Cyclopentane-Type Glycosidase Inhibitors: Asymmetric Synthesis of Amino cyclopentitols via Free Radical Cycloisomerization of Enantiomerically Pure Alkyne-Tethered Oxime Ethers Derived from Carbohydrates  
 AU Marco-Contelles, Jose; Destabel, Christine; Gallego, Pilar; Chiara, Jose Luis; Bernabe, Manuel  
 CS Instituto de Quimica Organica General, CSIC, Madrid, 28006, Spain  
 SO Journal of Organic Chemistry (1996), 61(4), 1354-62  
 CODEN: JOCEAH; ISSN: 0022-3263



PB American Chemical Society  
DT Journal  
LA English  
OS CASREACT 124:232945

L8 ANSWER 28 OF 55 CAPLUS COPYRIGHT 2002 ACS  
AN 1996:13029 CAPLUS  
DN 124:56742  
TI Method for producing optically active 4-aryl-2,3-dihydroxybutyric acid  
derivatives as intermediates for bestatin  
IN Koseki, Yukifumi; Ebata, Takashi; Matsushita, Hajime  
PA Nippon Tobacco Sangyo, Japan  
SO Jpn. Kokai Tokkyo Koho, 18 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 07228549	A2	19950829	JP 1994-20339	19940217
OS	CASREACT 124:56742; MARPAT 124:56742				

L8 ANSWER 29 OF 55 CAPLUS COPYRIGHT 2002 ACS  
AN 1995:933758 CAPLUS  
DN 124:146696  
TI Stereoselective synthesis of 3-.beta.-D-ribofuranosylpyrazole from  
**2,3-O-isopropylidene-D-ribose**; a new route to pyrazole C-nucleosides  
AU Rycroft, Anthony D.; Singh, Gurdial; Wightman, Richard H.  
CS Sch. Science and Technology, Univ. Teesside, Middlesbrough, Cleveland,  
TS1 3BA, UK  
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and  
Bio-Organic Chemistry (1995), (21), 2667-8  
CODEN: JCPRB4; ISSN: 0300-922X  
PB Royal Society of Chemistry  
DT Journal  
LA English  
OS CASREACT 124:146696

L8 ANSWER 30 OF 55 CAPLUS COPYRIGHT 2002 ACS  
AN 1995:784522 CAPLUS  
DN 124:30134  
TI Free radical cycloisomerization of enantiomerically pure alkyne-tethered  
oxime ethers: A new method for the asymmetric synthesis of  
aminocyclopentitols  
AU Marco-Contelles, Jose; Destael, Christine; Chiara, Jose Luis; Bernabe,  
Manuel  
CS Instituto de Quimica Organica General, Madrid, 28006, Spain  
SO Tetrahedron: Asymmetry (1995), 6(7), 1547-50  
CODEN: TASYE3; ISSN: 0957-4166  
PB Elsevier  
DT Journal  
LA English  
OS CASREACT 124:30134

L8 ANSWER 31 OF 55 CAPLUS COPYRIGHT 2002 ACS  
AN 1995:550018 CAPLUS  
DN 123:112425  
TI Benzyl 2,3-O-isopropylidene-.beta.-D-ribo-1,4-pentodialdofuranoside as a

D-ribose chiron for the synthesis of terpenyl tetraols and aminotriols  
 AU Duvold, Tore; Francis, George W.; Papaioannou, Dionissios  
 CS Dep. Chem., Univ. Bergen, Bergen, N-5007, Norway  
 SO Tetrahedron Letters (1995), 36(18), 3153-6  
 CODEN: TELEAY; ISSN: 0040-4039  
 PB Elsevier  
 DT Journal  
 LA English

L8 ANSWER 32 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1994:701163 CAPLUS  
 DN 121:301163  
 TI Simple synthesis of all four stereoisomers of 2,2,5-trimethyl-1,3-dioxolane-4-carbaldehyde  
 AU Binder, W. H.; Prenner, R. H.; Schmid, W.  
 CS Inst. Organische Chemie, Univ. Wien, Vienna, A-1090, Austria  
 SO Monatshefte fuer Chemie (1994), 125(6-7), 763-71  
 CODEN: MOCMB7; ISSN: 0026-9247  
 DT Journal  
 LA German  
 OS CASREACT 121:301163

L8 ANSWER 33 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1994:509461 CAPLUS  
 DN 121:109461  
 TI Synthesis and polymerization of 2,3-O-isopropylidene-D-ribose and its derivatives  
 AU Wu, Chengpei; Li, Hongwei; Pan, Caiyuan; Uryu, Toshiyuki  
 CS Dep. Mater. Sci. Eng., China Univ. Sci. Technol., Hefei, 230026, Peop. Rep. China  
 SO Zhongguo Kexue Jishu Daxue Xuebao (1993), 23(4), 436-41  
 CODEN: CKHPD7; ISSN: 0253-2778  
 DT Journal  
 LA Chinese

L8 ANSWER 34 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1993:254620 CAPLUS  
 DN 118:254620  
 TI Preparation of 4-(cis-alkenyl)-.gamma.-lactones as pheromones and its novel intermediates  
 IN Koseki, Koshi; Kawakami, Hiroshi; Ebata, Takashi; Matsushita, Hajime; Ono, Mikio  
 PA Japan Tobacco, Inc., Japan; Fuji Flavor Co., Ltd.  
 SO PCT Int. Appl., 54 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9214720	A1	19920903	WO 1992-JP150	19920217
	W: JP, US				
	RW: DE, FR, GB				
	EP 528044	A1	19930224	EP 1992-905003	19920217
	EP 528044	B1	19970813		
	R: DE, FR, GB				
	US 5374744	A	19941220	US 1992-937848	19921021
PRAI	JP 1991-77376		19910221		
	WO 1992-JP150		19920217		

OS CASREACT 118:254620

L8 ANSWER 35 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1992:531447 CAPLUS  
 DN 117:131447  
 TI A new method for synthesis of 2,3-O-isopropylidene derivatives of ribose  
 AU Li, Zhanjiang; He, Dayan; Li, Zhongjun; Qiu, Dongxu; Liu, Yunqi; Jiao, Xianyun; Cai, Mengshen  
 CS Dep. Org. Chem., Beijing Med. Univ., Beijing, Peop. Rep. China  
 SO Beijing Yike Daxue Xuebao (1991), 23(5), 417-8  
 CODEN: BYDXEV; ISSN: 1000-1530  
 DT Journal  
 LA Chinese  
 OS CASREACT 117:131447

L8 ANSWER 36 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1990:36356 CAPLUS  
 DN 112:36356  
 TI Growth inhibition and induction of cellular differentiation of human myeloid leukemia cells in culture by carbamoyl congeners of ribavirin  
 AU Sanghvi, Yogesh S.; Bhattacharya, Birendra K.; Kini, Ganesh D.; Matsumoto, Steven S.; Larson, Steven B.; Jolley, Weldon B.; Robins, Roland K.; Revankar, Ganapathi R.  
 CS ICN Nucleic Acid Res. Inst., Costa Mesa, CA, 92626, USA  
 SO Journal of Medicinal Chemistry (1990), 33(1), 336-44  
 CODEN: JMCMAR; ISSN: 0022-2623  
 DT Journal  
 LA English  
 OS CASREACT 112:36356

L8 ANSWER 37 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1989:173572 CAPLUS  
 DN 110:173572  
 TI Aldol reaction of reducing sugars. Convenient stereoselective synthesis of ribofuranosylacetone and chiral dienones  
 AU Calvo-Mateo, Ana; Camarasa, Maria Jose; Diaz-Ortiz, Angel; De las Heras, Federico G.; Alemany, Antonio  
 CS Inst. Quim. Med., CSIC, Madrid, 28006, Spain  
 SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1988), (10), 2861-3  
 CODEN: JCPRB4; ISSN: 0300-922X  
 DT Journal  
 LA English  
 OS CASREACT 110:173572

L8 ANSWER 38 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1989:39297 CAPLUS  
 DN 110:39297  
 TI Synthesis of nucleosides using ketene dithioacetals  
 AU Yokoyama, Masataka; Kumata, Katsushi; Yamada, Naoyuki; Noro, Hidehiko; Sudo, Yuka  
 CS Fac. Sci., Chiba Univ., Chiba, 260, Japan  
 SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1988), (8), 2309-13  
 CODEN: JCPRB4; ISSN: 0300-922X  
 DT Journal  
 LA English  
 OS CASREACT 110:39297

L8 ANSWER 39 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1988:570727 CAPLUS  
 DN 109:170727  
 TI Stereoselective cyclizations of unsaturated esters derived from 2  
 ,3-O-isopropylidene-D-ribose  
 AU Drew, Michael G. B.; Kane, Peter D.; Mann, John; Naili, Mahbuba  
 CS Dep. Chem., Univ. Reading, Reading/Berkshire, RG6 2AD, UK  
 SO Journal of the Chemical Society, Perkin Transactions 1: Organic and  
 Bio-Organic Chemistry (1972-1999) (1988), (3), 433-7  
 CODEN: JCPRB4; ISSN: 0300-922X  
 DT Journal  
 LA English  
 OS CASREACT 109:170727

L8 ANSWER 40 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1988:510708 CAPLUS  
 DN 109:110708  
 TI Enantiospecific synthesis of (+)-retronecine, (+)-crotonine, and  
 related  
 alkaloids  
 AU Buchanan, J. Grant; Jigajinni, Veerappa B.; Singh, Gurdial; Wightman,  
 Richard H.  
 CS Dep. Chem., Heriot-Watt Univ., Edinburgh, EH14 4AS, UK  
 SO Journal of the Chemical Society, Perkin Transactions 1: Organic and  
 Bio-Organic Chemistry (1972-1999) (1987), (11), 2377-84  
 CODEN: JCPRB4; ISSN: 0300-922X  
 DT Journal  
 LA English  
 OS CASREACT 109:110708

L8 ANSWER 41 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1986:573001 CAPLUS  
 DN 105:173001  
 TI 7-(Ribofuranosylmethyl)imidazopyridazine derivatives  
 IN Knight, David John; Scopes, David Ian Carter; Storer, Richard; Holman,  
 Stuart  
 PA Glaxo Group Ltd., UK  
 SO Ger. Offen., 69 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	DE 3541358	A1	19860528	DE 1985-3541358	19851122
	FR 2573764	A1	19860530	FR 1985-17238	19851121
	BE 903699	A1	19860522	BE 1985-215903	19851122
	SE 8505534	A	19860524	SE 1985-5534	19851122
	DK 8505401	A	19860524	DK 1985-5401	19851122
	FI 8504619	A	19860524	FI 1985-4619	19851122
	NO 8504692	A	19860526	NO 1985-4692	19851122
	GB 2167419	A1	19860529	GB 1985-28766	19851122
	GB 2167419	B2	19880323		
	AU 8550299	A1	19860529	AU 1985-50299	19851122
	NL 8503225	A	19860616	NL 1985-3225	19851122
	JP 61165385	A2	19860726	JP 1985-261614	19851122
	CN 85109195	A	19861105	CN 1985-109195	19851122
	ES 549190	A1	19870416	ES 1985-549190	19851122
	ZA 8508964	A	19870729	ZA 1985-8964	19851122

	US 4690917	A	19870901	US 1985-800667	19851122
	ES 556894	A1	19870716	ES 1986-556894	19860716
PRAI	GB 1984-29694		19841123		

- L8 ANSWER 42 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1986:572090 CAPLUS  
 DN 105:172090  
 TI An enantiospecific synthesis of (+)-disparlure from carbohydrate precursors  
 AU Jigajinni, Veerappa B.; Wightman, Richard H.  
 CS Dep. Chem., Heriot-Watt Univ., Edinburgh, EH14 4AS, UK  
 SO Carbohydrate Research (1986), 147(1), 145-8  
 CODEN: CRBRAT; ISSN: 0008-6215  
 DT Journal  
 LA English  
 OS CASREACT 105:172090
- L8 ANSWER 43 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1986:110105 CAPLUS  
 DN 104:110105  
 TI Two total syntheses of showdomycin and related studies  
 AU Barrett, Anthony G. M.; Broughton, Howard B.; Attwood, Steven V.; Gunatilaka, A. A. Leslie  
 CS Dep. Chem., Northwestern Univ., Evanston, IL, 60201, USA  
 SO Journal of Organic Chemistry (1986), 51(4), 495-503  
 CODEN: JOCEAH; ISSN: 0022-3263  
 DT Journal  
 LA English  
 OS CASREACT 104:110105
- L8 ANSWER 44 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1984:156883 CAPLUS  
 DN 100:156883  
 TI Antiviral compounds. 2. The preparation and activity of some substituted 3-methyl-1-phenyl-5-pyrazolones  
 AU Breuer, Eli; Melumad, David; Sarel, Shalom; Margalith, Eva; Katz, Ehud  
 CS Sch. Pharm., Heb. Univ., Jerusalem, Israel  
 SO European Journal of Medicinal Chemistry (1983), 18(6), 481-5  
 CODEN: EJMCA5; ISSN: 0009-4374  
 DT Journal  
 LA English
- L8 ANSWER 45 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1982:218126 CAPLUS  
 DN 96:218126  
 TI Synthesis of 4,5-dideoxy-4-C-[(R,S)-phenylphosphinyl]-D-ribo- and L-lyxofuranose and their 1,2,3-triacetates  
 AU Yamamoto, Hiroshi; Nakamura, Yuhji; Kawamoto, Heizan; Inokawa, Saburo; Yamashita, Mitsuji; Armour, Margaret Ann; Nakashima, Tom T.  
 CS Fac. Sci., Okayama Univ., Okayama, 700, Japan  
 SO Carbohydr. Res. (1982), 102(1), 185-96  
 CODEN: CRBRAT; ISSN: 0008-6215  
 DT Journal  
 LA English
- L8 ANSWER 46 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1979:187242 CAPLUS  
 DN 90:187242  
 TI Branched-chain sugars. Reaction of furanoses with formaldehyde: a

AU stereospecific synthesis of L-dendroketose  
 CS Ho, Pak-Tsun  
 SO Div. Biol. Sci., Natl. Res. Counc. Canada, Ottawa, Ont., Can.  
 Can. J. Chem. (1979), 57(4), 384-6  
 CODEN: CJCHAG; ISSN: 0008-4042  
 DT Journal  
 LA English

L8 ANSWER 47 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1979:168937 CAPLUS  
 DN 90:168937  
 TI 1,2,4-Triazole nucleosides  
 IN Christensen, Leon F.; Witkowski, Joseph T.  
 PA ICN Pharmaceuticals, Inc., USA  
 SO U.S., 4 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 4138547	A	19790206	US 1977-863293	19771222

L8 ANSWER 48 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1978:121577 CAPLUS  
 DN 88:121577  
 TI C-glycosyl derivatives in nitro sugar chemistry: synthesis of  
 D-ribofuranosylnitromethane derivatives and their epimerization under  
 neutral conditions  
 AU Takamoto, Tetsuyoshi; Omi, Hiroshi; Matsuzaki, Toshihiko; Sudoh, Rokuro  
 CS Fac. Sci., Tokyo Inst. Technol., Tokyo, Japan  
 SO Carbohydr. Res. (1978), 60(1), 97-103  
 CODEN: CRBRAT; ISSN: 0008-6215  
 DT Journal  
 LA English

L8 ANSWER 49 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1975:514810 CAPLUS  
 DN 83:114810  
 TI C-nucleoside studies. II. Pentofuranosylethyne from 2,  
**3-O-isopropylidene-D-ribose**  
 AU Buchanan, J. Grant; Dunn, Allan D.; Edgar, Alan R.  
 CS Dep. Chem., Heriot-Watt Univ., Edinburgh, Scot.  
 SO J. Chem. Soc., Perkin Trans. 1 (1975), (13), 1191-200  
 CODEN: JCPRB4  
 DT Journal  
 LA English

L8 ANSWER 50 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1975:17018 CAPLUS  
 DN 82:17018  
 TI Reaction of ethynylmagnesium bromide with 2,3-  
**O-isopropylidene-D-ribose** and  
 2,3:5,6-di-O-isopropylidene-D-mannofuranose. Syntheses of  
 glycofuranosylethyne  
 AU Buchanan, J. Grant; Dunn, Allan D.; Edgar, Alan R.  
 CS Dep. Chem., Heriot-Watt Univ., Riccarton/Currie/Edinburgh, Scot.  
 SO Carbohydr. Res. (1974), 36(1), C5-C7  
 CODEN: CRBRAT  
 DT Journal

LA English

L8 ANSWER 51 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1973:4436 CAPLUS  
 DN 78:4436  
 TI Oxidation of carbohydrate derivatives with silver carbonate on celite.  
 V. Oxidation of some O-isopropylidene aldoses with unsubstituted anomeric hydroxyl group  
 AU Morgenlie, Svein  
 CS Dep. Chem., Agric. Coll., Vollebekk, Norway  
 SO Acta Chem. Scand. (1972), 26(6), 2518-22  
 CODEN: ACSAA4  
 DT Journal  
 LA English

L8 ANSWER 52 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1972:14820 CAPLUS  
 DN 76:14820  
 TI Epimerization of monosaccharides under acetolysis conditions  
 AU Sowa, Walter  
 CS Dep. Org. Chem., Ontario Res. Found., Sheridan Park, Ont., Can.  
 SO Can. J. Chem. (1971), 49(20), 4292-8  
 CODEN: CJCHAG  
 DT Journal  
 LA English

L8 ANSWER 53 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1966:473805 CAPLUS  
 DN 65:73805  
 OREF 65:13807g  
 TI Selective reduction of substituted aldonolactones to aldose derivatives  
 AU Hulyalkar, R. K.  
 CS Queen's Univ., Kingston  
 SO Can. J. Chem. (1966), 44(13), 1594-6  
 DT Journal  
 LA English

L8 ANSWER 54 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1966:438732 CAPLUS  
 DN 65:38732  
 OREF 65:7254d-f  
 TI Preparation of bisulfite addition compounds of 5-amino-5-deoxy-D-xylose  
 AU Ingles, D. L.  
 CS Commonwealth Sci. Ind. Res. Organ., North Ryde  
 SO Australian J. Chem. (1966), 19(4), 667-73  
 DT Journal  
 LA English

L8 ANSWER 55 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 AN 1962:411032 CAPLUS  
 DN 57:11032  
 OREF 57:2294e-i,2295a-c  
 TI 5-O-Methyl-D-ribose and 5-O-methyl-D-ribitol  
 AU Ranch, Emil B.; Lipkin, David  
 CS Washington Univ., St. Louis, MO  
 SO J. Org. Chem. (1962), 27, 403  
 CODEN: JOCEAH; ISSN: 0022-3263  
 DT Journal  
 LA Unavailable

=> s 18 and nucleoside?

L12 13 L8 AND NUCLEOSIDE?

=> d 112 1-13

L12 ANSWER 1 OF 13 MEDLINE

AN 90112400 MEDLINE

DN 90112400 PubMed ID: 2296029

TI Growth inhibition and induction of cellular differentiation of human myeloid leukemia cells in culture by carbamoyl congeners of ribavirin.

AU Sanghvi Y S; Bhattacharya B K; Kini G D; Matsumoto S S; Larson S B; Jolley

W B; Robins R K; Revankar G R

CS ICN Nucleic Acid Research Institute, Costa Mesa, California 92626.

SO JOURNAL OF MEDICINAL CHEMISTRY, (1990 Jan) 33 (1) 336-44.

Journal code: 9716531. ISSN: 0022-2623.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199002

ED Entered STN: 19900328

Last Updated on STN: 19970203

Entered Medline: 19900222

L12 ANSWER 2 OF 13 MEDLINE

AN 76005891 MEDLINE

DN 76005891 PubMed ID: 1171879

TI C-nucleoside studies. Part II. Pentofuranosylethynes from 2,3-O-isopropylidene-D-ribose.

AU Buchanan J G; Dunn A D; Edgar A R

SO JOURNAL OF THE CHEMICAL SOCIETY. PERKIN TRANSACTIONS 1, (1975) (13) 1191-200.

Journal code: 7505598. ISSN: 0300-922X.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 197511

ED Entered STN: 19900313

Last Updated on STN: 19900313

Entered Medline: 19751126

L12 ANSWER 3 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1992:365193 BIOSIS

DN BA94:47243

TI CONFORMATIONAL VARIABILITY IN MODIFIED NUCLEOSIDES CRYSTAL AND MOLECULAR STRUCTURE OF 2' 3'-O ISOPROPYLIDENE INOSINE.

AU MANDE S S; SHAMALA N; SESHADRI T P; VISWAMITRA M A

CS DEP. PHYSICS JAWAHARLAL NEHRU CENTRE ADVANCED SCIENTIFIC RESEARCH, INDIAN INST. SCI., BANGALORE-560 012, INDIA.

SO NUCLEOSIDES NUCLEOTIDES, (1992) 11 (5), 1103-1114.

CODEN: NUNUD5. ISSN: 0732-8311.

FS BA; OLD

LA English

L12 ANSWER 4 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.



AN 1990:134340 BIOSIS  
TI GROWTH INHIBITION AND INDUCTION OF CELLULAR DIFFERENTIATION OF HUMAN  
MYELOID LEUKEMIA CELLS IN CULTURE BY CARBAMOYL CONGENERS OF RIBAVIRIN.  
AU SANGHVI Y S; BHATTACHARYA B K; KINI G D; MATSUMOTO S S; LARSON S B;  
JOLLEY  
W B; ROBINS R K; REVANKAR G R  
CS ICI NUCLEIC ACID RES. INST., 330 HYLAND AVE., COSTA MESA, CALIF. 92626.  
SO J MED CHEM, (1990) 33 (1), 336-344.  
CODEN: JMCMAR. ISSN: 0022-2623.  
FS BA; OLD  
LA English

L12 ANSWER 5 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1988:182079 BIOSIS  
DN BA85:94181  
TI AN ALTERNATIVE TOTAL SYNTHETIC APPROACH TOWARD OCTOSYL ACID A.  
AU KOZAKI S; SAKANAKA O; YASUDA T; SHIMIZU T; OGAWA S; SUAMI T  
CS DEP. APPLIED CHEM., FAC. SCI. AND TECHNOL., KEIO UNIV., HIYOSHI,  
YOKOHAMA,  
223 JAPAN.  
SO J ORG CHEM, (1988) 53 (2), 281-286.  
CODEN: JOCEAH. ISSN: 0022-3263.  
FS BA; OLD  
LA English

L12 ANSWER 6 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1979:211441 BIOSIS  
DN BA68:13945  
TI A NOVEL SYNTHESIS OF RIBAVIRIN AND RELATED **NUCLEOSIDES**.  
AU WITKOWSKI J T; CHRISTENSEN L F; ROBINS R K  
CS SCHERING CORP., BLOOMFIELD, N.J. 07003, USA.  
SO J CARBOHYDR NUCLEOSIDES NUCLEOTIDES, (1978) 5 (4), 363-372.  
CODEN: JCNNAF. ISSN: 0094-0585.  
FS BA; OLD  
LA English

L12 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:331681 CAPLUS  
TI Cyclonucleosides.  
AU Brajeswar, Paul; Mayer, Bruce F.; Porter, Carl  
CS Roswell Park Cancer Institute, Grace Cancer Drug Center, Buffalo, NY,  
14263-0001, USA  
SO Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March  
26-30, 2000 (2000), MEDI-079 Publisher: American Chemical Society,  
Washington, D. C.  
CODEN: 69CLAC  
DT Conference; Meeting Abstract  
LA English

L12 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2002 ACS  
AN 1997:630786 CAPLUS  
DN 127:262997  
TI Preparation of .beta.-C azanucleoside derivatives as glycosidase  
inhibitors  
IN Yokoyama, Masataka; Togo, Hideo  
PA Nihon Nohyaku Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 09249664	A2	19970922	JP 1996-81019	19960309
OS	CASREACT 127:262997; MARPAT 127:262997				
L12	ANSWER 9 OF 13 CAPLUS COPYRIGHT 2002 ACS				
AN	1995:933758 CAPLUS				
DN	124:146696				
TI	Stereoselective synthesis of 3-.beta.-D-ribofuranosylpyrazole from <b>2,3-O-isopropylidene-D-ribose</b> ; a new route to pyrazole C-nucleosides				
AU	Rycroft, Anthony D.; Singh, Gurdial; Wightman, Richard H.				
CS	Sch. Science and Technology, Univ. Teesside, Middlesbrough, Cleveland,				
TS1	3BA, UK				
SO	Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1995), (21), 2667-8 CODEN: JCPRB4; ISSN: 0300-922X				
PB	Royal Society of Chemistry				
DT	Journal				
LA	English				
OS	CASREACT 124:146696				
L12	ANSWER 10 OF 13 CAPLUS COPYRIGHT 2002 ACS				
AN	1990:36356 CAPLUS				
DN	112:36356				
TI	Growth inhibition and induction of cellular differentiation of human myeloid leukemia cells in culture by carbamoyl congeners of ribavirin				
AU	Sanghvi, Yogesh S.; Bhattacharya, Birendra K.; Kini, Ganesh D.;				
	Matsumoto,				
	Steven S.; Larson, Steven B.; Jolley, Weldon B.; Robins, Roland K.;				
	Revankar, Ganapathi R.				
CS	ICN Nucleic Acid Res. Inst., Costa Mesa, CA, 92626, USA				
SO	Journal of Medicinal Chemistry (1990), 33(1), 336-44 CODEN: JMCMAR; ISSN: 0022-2623				
DT	Journal				
LA	English				
OS	CASREACT 112:36356				
L12	ANSWER 11 OF 13 CAPLUS COPYRIGHT 2002 ACS				
AN	1989:39297 CAPLUS				
DN	110:39297				
TI	Synthesis of <b>nucleosides</b> using ketene dithioacetals				
AU	Yokoyama, Masataka; Kumata, Katsushi; Yamada, Naoyuki; Noro, Hidehiko;				
	Sudo, Yuka				
CS	Fac. Sci., Chiba Univ., Chiba, 260, Japan				
SO	Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1988), (8), 2309-13 CODEN: JCPRB4; ISSN: 0300-922X				
DT	Journal				
LA	English				
OS	CASREACT 110:39297				
L12	ANSWER 12 OF 13 CAPLUS COPYRIGHT 2002 ACS				
AN	1979:168937 CAPLUS				
DN	90:168937				
TI	<b>1,2,4-Triazole nucleosides</b>				
IN	Christensen, Leon F.; Witkowski, Joseph T.				
PA	ICN Pharmaceuticals, Inc., USA				

SO U.S., 4 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4138547	A	19790206	US 1977-863293	19771222

L12 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2002 ACS  
AN 1975:514810 CAPLUS  
DN 83:114810  
TI C-nucleoside studies. II. Pentofuranosylethynes from 2  
,3-O-isopropylidene-D-ribose  
AU Buchanan, J. Grant; Dunn, Allan D.; Edgar, Alan R.  
CS Dep. Chem., Heriot-Watt Univ., Edinburgh, Scot.  
SO J. Chem. Soc., Perkin Trans. 1 (1975), (13), 1191-200  
CODEN: JCPRB4  
DT Journal  
LA English

=> d l12 abs ibib 6

L12 ANSWER 6 OF 13 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB Ribavirin, (1-.beta.-D-ribofuranosyl-1,2,4-triazole 3-carboxamide) is a broad spectrum antiviral agent. Cyanoformidic acid hydrazide in ethanol containing a little formic acid was reacted with 2,3-O-isopropylidene-D-ribose to give N1-(2,3-O-isopropylidene-D-ribofuranosyl)-cyanoformamidrazone (6). The structure 6 was confirmed by subsequent conversion to ribavirin.

ACCESSION NUMBER: 1979:211441 BIOSIS  
DOCUMENT NUMBER: BA68:13945  
TITLE: A NOVEL SYNTHESIS OF RIBAVIRIN AND RELATED NUCLEOSIDES.  
AUTHOR(S): WITKOWSKI J T; CHRISTENSEN L F; ROBINS R K  
CORPORATE SOURCE: SCHERING CORP., BLOOMFIELD, N.J. 07003, USA.  
SOURCE: J CARBOHYDR NUCLEOSIDES NUCLEOTIDES, (1978) 5 (4), 363-372.  
CODEN: JCNAF. ISSN: 0094-0585.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

=> s l8 and ischemia?  
L13 0 L8 AND ISCHEMIA?

=> s l8 and hypertension?  
L14 0 L8 AND HYPERTENSION?

=> s l8 and adenosine?  
L15 0 L8 AND ADENOSINE?

=> s l8 and adenine?  
L16 0 L8 AND ADENINE?

=> s l8 and adenosine cyclic ketal  
L17 0 L8 AND ADENOSINE CYCLIC KETAL

=> s adenosine

L18 272042 ADENOSINE

=> s l18 and cyclic(w)ketal?

L19 3 L18 AND CYCLIC(W) KETAL?

=> d l19 abs ibib 1-3

L19 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AB The present invention includes a novel class of synthetic **adenosine** derivs. having clin. relevant and useful properties. These **adenosine cyclic ketal** compds. will be useful for treatment of a variety of conditions including, but not limited

to, hypertension, vasodilation and ischemia.

ACCESSION NUMBER: 2002:778710 CAPLUS

DOCUMENT NUMBER: 137:273211

TITLE: **Adenosine cyclic ketals:**  
novel **adenosine** analogues for  
pharmacotherapy

INVENTOR(S): Jones, Garth S.; Jackson, Edwin K.

PATENT ASSIGNEE(S): University of Pittsburgh, USA

SOURCE: U.S. Pat. Appl. Publ., 15 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

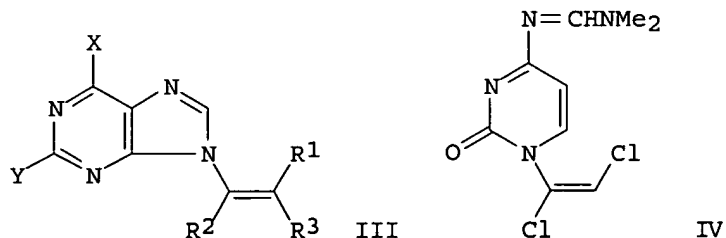
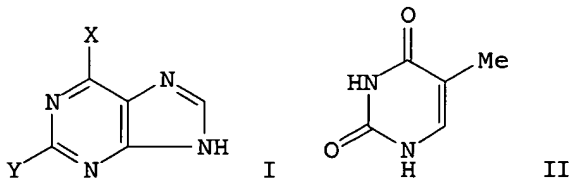
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002147174	A1	20021010	US 2001-828276	20010405

OTHER SOURCE(S): MARPAT 137:273211

L19 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

GI

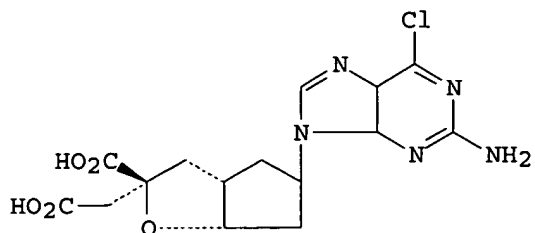


AB Reactions of nucleic acid bases and related heterocycles 1-5 (I; e.g., X  
=

NH<sub>2</sub>, Y = H), 18 (II) and 22 with tetra-, tri- and dichloroethylenes, ClCR<sub>2</sub>:CR<sub>1</sub>R<sub>2</sub> (6-9, e.g., R<sub>1</sub> = R<sub>2</sub> = R<sub>3</sub> = Cl) in hexamethylphosphoric triamide gave the corresponding N-trichloro-, -dichloro- and -chloroenamines III: 11-17, 19, 20, 23 and 24 in high regioselectivity (N9 for purines and N1 for pyrimidines). Bases 1, 5, 18, 22 and trichloroethylene 7 gave the resp. E-dichloro enamines 15, 16, 20 and 24. Compds. 16 and 20 were identical with the products obtained by dichloro enamine 21 as the major product. The latter exists at room temp. as a mixt. of rotamers 28 and 29 (.DELTA.G.dbldag. .simeq. 18 kcal mol<sup>-1</sup>). The reaction of adenine 1 with (Z)-1,2- or 1,1-dichloroethylene 8 or 9 furnished Z-chloro enamine 17 whereas thymine 18 and tetrachloroethylene 6 in DMSO afforded a redn. product 20. Benzoylation of N9-(trichlorovinyl)adenine 11 gave N6,N6-dibenzoyl deriv. 26. The reaction of N1-(dichlorovinyl)cytosine 24 with N,N-dimethylformamide di-Me acetal afforded amidine 25 (IV). Interaction of (E)-N9-(dichlorovinyl)adenine 16 with sodium methoxide gave exclusively E-enamine 27 (III; X = NH<sub>2</sub>, Y = H, R<sub>1</sub> = OMe, R<sub>2</sub> = Cl, R<sub>3</sub> = H). Trichloro enamines 11-14, 19, 23 and 26 were transformed to ynamines 30-35. Hydrogenation of compds. 30 and 35 furnished N9-ethyladenine 36 and N1-ethylthymine 37. Alkylation of ynamine 30 with acetone 38 gave only carbinol 41 whereas cyclohexanone 39 gave both compd. 43 and **cyclic ketal** 43. The reaction of ynamines 30 and 35 with ketone 40 afforded only ketals 44 and 45. The reaction of compd. 30 with N,N-dimethylformamide di-Me acetal led to N-dimethylaminomethylene deriv. 46. Ynamine 30 is a substrate for **adenosine** deaminase.

ACCESSION NUMBER: 1994:534064 CAPLUS  
DOCUMENT NUMBER: 121:134064  
TITLE: Synthesis, transformations and biological activity of chloro enamines and ynamines derived from chloroalkenyl- and alkynyl-N-substituted purine and pyrimidine bases of nucleic acids  
AUTHOR(S): Joshi, Ramachandra V.; Xu, Ze-Qi; Ksebati, Mohamad B.; Kessel, David; Corbett, Thomas H.; Drach, John C.; Zemlicka, Jiri  
CORPORATE SOURCE: Dep. Chem., Michigan Cancer Found, Detroit, MI, 48201, USA  
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1994), (8), 1089-98  
CODEN: JCPRB4; ISSN: 0300-922X  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 121:134064

L19 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS  
GI



I

AB Synthetic analogs of the natural product griseolic acid in which a guanine

base is substituted for the adenine have been prepd. The best of these compds. I inhibits a cyclic guanosine 3',5'-monophosphate (cGMP) phosphodiesterase prepn. with an IC50 of 0.34 .mu.M but is a very weak inhibitor of a cyclic **adenosine** 3',5'-monophosphate (cAMP) phosphodiesterase. An examn. of stereochem. factors indicates that the configuration of the carboxylic acids and the ring fusion in the inhibitors is important for potent cGMP PDE inhibition. PDE inhibition

is

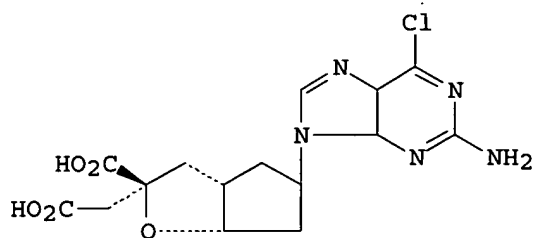
not sensitive to the presence of the 2' or 4' oxygen atoms in the ribose, but inhibition is decreased when the 3' oxygen is removed. A selected group of analogs in which a monocarboxylic acid is present are poor inhibitors. The structure-activity relationship is consistent with the carboxylic acid functionality acting as a mimetic for the phosphate anion in cGMP and this concept is supported by a conformational anal. of two of the inhibitors.

ACCESSION NUMBER: 1993:428519 CAPLUS  
DOCUMENT NUMBER: 119:28519  
TITLE: Synthesis and phosphodiesterase activity of  
carboxylic acid mimetics of cyclic guanosine 3',5'-monophosphate  
AUTHOR(S): Tulshian, Deen; Czarniecki, Michael; Doll, Ronald J.;  
Ahn, Ho Sam  
CORPORATE SOURCE: Schering-Plough Res. Inst., Kenilworth, NJ, 07033,  
USA  
SOURCE: Journal of Medicinal Chemistry (1993), 36(9), 1210-20  
CODEN: JMCMAR; ISSN: 0022-2623  
DOCUMENT TYPE: Journal  
LANGUAGE: English

=> s ribose and cyclic(w)ketal?  
L20 2 RIBOSE AND CYCLIC(W) KETAL?

=> d l20 abs ibib 1-2

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
GI



I

AB Synthetic analogs of the natural product griseolic acid in which a guanine

base is substituted for the adenine have been prepd. The best of these compds. I inhibits a cyclic guanosine 3',5'-monophosphate (cGMP) phosphodiesterase prepn. with an IC50 of 0.34 .mu.M but is a very weak inhibitor of a cyclic adenosine 3',5'-monophosphate (cAMP) phosphodiesterase. An examn. of stereochem. factors indicates that the configuration of the carboxylic acids and the ring fusion in the inhibitors is important for potent cGMP PDE inhibition. PDE inhibition

is

not sensitive to the presence of the 2' or 4' oxygen atoms in the ribose, but inhibition is decreased when the 3' oxygen is removed. A selected group of analogs in which a monocarboxylic acid is present are poor inhibitors. The structure-activity relationship is consistent with the carboxylic acid functionality acting as a mimetic for the phosphate anion in cGMP and this concept is supported by a conformational anal. of two of the inhibitors.

ACCESSION NUMBER: 1993:428519 CAPLUS  
DOCUMENT NUMBER: 119:28519  
TITLE: Synthesis and phosphodiesterase activity of carboxylic acid mimetics of cyclic guanosine 3',5'-monophosphate  
AUTHOR(S): Tulshian, Deen; Czarniecki, Michael; Doll, Ronald J.; Ahn, Ho Sam  
CORPORATE SOURCE: Schering-Plough Res. Inst., Kenilworth, NJ, 07033, USA  
SOURCE: Journal of Medicinal Chemistry (1993), 36(9), 1210-20  
CODEN: JMCMAR; ISSN: 0022-2623  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AB cf. C.A. 52, 19958f; 54, 3218d. The C-O bonds in the 1,3-dioxolane rings at C-5 and C-6 of 1,2:5,6-di-O-isopropylidene- (I) and 1,2:5,6-di-O-cyclohexylidene-D-glucofuranose (II) were cleaved by hydrogenolysis with copper chromite catalyst (III) in dioxane, but O-isopropylidene groups attached to the reducing center of a sugar mol. were not similarly hydrogenolyzed to O-isopropyl derivs. The 1,3-dioxolane ring of 1,6-anhydro-.beta.-D-glucopyranose (IV) was cleaved with simultaneous reductive fission of the C-2 OH group. I (150 g.) in 2.5 l. dioxane contg. 50 g. III shaken 6 hrs. at 200.degree./1000-1500 lb./sq. in. and the cooled filtered soln. evapd. to a sirup, crystd. from CHCl3-petr. ether (b. 30-60.degree.) and the mother liquor evapd., the amorphous residue (96 g.) heated 1 hr. at 100.degree. in 500 ml. 0.1N H2SO4 and the neutralized (BaCO3) hydrolyzate filtered, the filtrate evapd., and the sirup fractionated on cellulose gave 9.6 g. material (V), RRh 1.7, 7.8 g. compd. (VI), RRh 2.0, and 1.8 g. nonreducing materials which were not further examd. (RRh = distance on paper chromatogram relative to rhamnose, RRh = 1; 40:11:19 BuOH-EtOH-H2O and 500:50:1

C<sub>6</sub>H<sub>6</sub>-EtOH-H<sub>2</sub>O used for paper chromatograms and cellulose column fractionations, resp.; p-anisidine hydrochloride and ammoniacal AgNO<sub>3</sub> used as developers). V recrystd. (MeOH-Et<sub>2</sub>O and Me<sub>2</sub>CO) gave authentic 6-O-isopropyl-D-glucose, [.alpha.]D 83.degree. .fwdarw. 47.degree.; phenylosazone m. 169-70.degree. (MeOH-C<sub>6</sub>H<sub>6</sub>), [.alpha.]D -107.degree. .fwdarw. 67.degree. (c 0.7, C<sub>5</sub>H<sub>5</sub>N); 1,2,3,4-tetra-O-acetyl deriv. m. 124-5.degree., [.alpha.]D 11.degree. (c 0.5, 2,4-lutidine). VI (2.60 g., [.alpha.]D -13.degree.) reduced 3 hrs. with 1.20 g. NaBH<sub>4</sub> in 200 ml. H<sub>2</sub>O and excess reagent destroyed with AcOH, the soln. filtered through Amberlite IR-120 and evapd., the residue repeatedly evapd. from MeOH, and the sirup (2.10 g.) acetylated gave authentic penta-O-acetyl-6-O-isopropyl-L-identol, m. 87-8.degree., [.alpha.]D -7.5.degree. (c 1.0, 2,4-lutidine). Under the same hydrogenolysis and hydrolysis conditions 25.0 g. II was converted to glucose and reducing materials and the mixt. extd. continuously by CHCl<sub>3</sub> from H<sub>2</sub>O to give 0.90 g. impure material (VII), Rf 0.70, and on further extn. 0.53 g. slower moving compd. (VIII), Rf 0.58. Fractionation on a cellulose column gave further sepn. with an over-all yield of 1.4 and 2.4% VII and VIII, resp. The sirupy VII (144 mg.) in 10 ml. H<sub>2</sub>O contg. 30 mg. NaBH<sub>4</sub> kept 3 hrs. and the mixt. worked up gave 122 mg. sirup, crystd. from Me<sub>2</sub> CO to give 6-O-cyclohexyl-L-identol, m. 78-80.degree., [.alpha.]D -5.degree. (c 1.1, satd. borax soln.). Recrystn. of VIII from Me<sub>2</sub>CO gave 6-O-cyclohexyl-D-glucose, m. 115-17.degree., [.alpha.]D 60.degree. .fwdarw. 45.degree. (C 1.0, H<sub>2</sub>O). The cleavage of a 1,3-dioxolane ring was not surprising since some types of furan rings could be broken readily under similar hydrogenation conditions. The inversion of con figuration of OH groups on C atoms was a common feature of the action of III and Raney Ni on carbohydrates under hydrogenation conditions. A similar type of reaction occurred when IV was hydrogenolyzed at 180.degree.. IV (3 g.) in 150 ml. dioxane contg. 1.0 g. III hydrogenated 6 hrs. at 180.degree./1000-1500 lb./sq. in. and the filtered soln. evapd., the sirup (2.62 g.) fractionated on a cellulose column, and the component, RRh 1.4 (0.14 g.) recrystd. (EtOAc) gave authentic dihydro-D-altral, m. 105-6.degree., [.alpha.]D 73.degree. (c 0.8, H<sub>2</sub>O). The component, RRh 1.3, (0.39 g.) recrystd. (EtOAc) yielded dihydro-D-glucal, m. 87-8.degree., [.alpha.]D 19.degree. (C 1.0, H<sub>2</sub>O). A further component (0.55 g.) contg. compds. with RRh 1.1 and 1.3 was isolated but no 1,5-anhydro-D-glucitol was detected in any fraction. The 1,6-O-linkage in IV was cleaved at the C-1 O bond with redn. of the C-2 OH group. Hydrogenolysis of 1,2-ketals was not detected with 1,2-O-isopropylidene-D-glucofuranose or I. Lack of reactivity was shown further by using 1,2-O-isopropylidene-D-fructopyranose (IX) and 1,2-O-isopropylidene-D-xylofuranose (X) as substrates. In none of these instances were any derived 2-O-isopropyl polyols or isopropyl glycosides, formed by C-O bond scission, detected. IX (14.0 g.) in 250 ml. dioxane contg. 3.0 g. III hydrogenated 6 hrs. at 180.degree./100-135 atm. and the filtered soln. evapd., the sirup (12.7 g.) hydrolyzed 30 min. at 100.degree. in 30 ml. 0.1N H<sub>2</sub>SO<sub>4</sub>, and the filtered, neutralized (BaCO<sub>3</sub>) hydrolyzate evapd. yielded a sirup contg. fructose and 2 other ketohexoses as shown chromatographically with urea oxalate spray. X (5.1 g.) hydrogenated at 200.degree. yielded 3.7 g. sirup, which furnished a mixt. of 58% D-xylose and 42% ribose on further hydrolysis. Extensive inversion at C-3 occurred. To identify the hydrogenolysis products from I



and II the cryst. reference compds., 6-O-isopropyl-D-glucose (XI), 6-O-cyclohexyl-D-glucose (XII), penta-O-acetyl-6-O-isopropyl-L-iditol (XIII) and 6-O-cyclohexyl-L-iditol (XIV) were synthesized. Iso-PROH (40 ml.) contg. 0.79 g. Na refluxed 18 hrs. with 3.83 g. 3-O-benzyl-1,2-O-isopropylidene-6-O-p-tolylsulfonyl-D-glucofuranose (XV) (C.A. 40, 31005) and the soln. dild. with C<sub>6</sub>H<sub>6</sub>, washed 3 times with H<sub>2</sub>O, and the dried soln. evapd. gave 2.32 g. sirup, [ $\alpha$ .]D -16.degree. (c 1.4, alc.) contg. 3-O-benzyl-6-O-isopropyl-1,2-O-isopropylidene-D-glucofuranose.

The product (1.16 g.) in 50 ml. MeOH debenzylated 4 hrs. at 70.degree./100 atm. over Raney Ni and the filtered soln. evapd. yielded 0.67 g. sirup, [ $\alpha$ .]D -14.degree. (c 1.9, alc.), hydrolyzed (0.48 g.) 30 min. at 100.degree. in 0.1N HCl and the soln. neutralized (Ag<sub>2</sub>CO<sub>3</sub>), the filtered soln. evapd. and the sirup freed from glucose by dissoln. in Me<sub>2</sub>CO and addn. of a large excess of boiling Et<sub>2</sub>O, the liquid decanted and evapd.

to a small vol., filtered, and the product recrystd. to give XI, m. 126-8.degree., [ $\alpha$ .], 90.degree. .fwdarw. 50.degree. (c 0.5, H<sub>2</sub>O). K (0.80 g.) in 40 ml. 50% cyclohexanol in dioxane heated 18 hrs. at 100.degree. with 2.42 g. XV and the mixt. dild. with C<sub>6</sub>H<sub>6</sub>, extd. 3 times with H<sub>2</sub>O, and evapd. yielded 1.61 g. 3-O-benzyl-6-O-cyclohexyl-1,2-O-isopropylidene-D-glucofuranose, [ $\alpha$ .]D -18.degree. (c 1.4, MeOH).

The product (0.82 g.) hydrogenated to 0.52 g. sirupy 6-O-cyclohexyl-1,2-O-isopropylidene-D-glucofuranose, [ $\alpha$ .]D -23.degree. (c 2.2, alc.), hydrolyzed with acid and purified by Et<sub>2</sub>O extn. to yield 0.18 g. XII, m. 116-17.degree. (Me<sub>2</sub>CO), [ $\alpha$ .]D 66.degree. .fwdarw. 37.degree. (c 0.7, H<sub>2</sub>O). C<sub>5</sub>H<sub>5</sub>N (6 ml.) contg. 2.60 g. 1,2:3,4-di-O-isopropylidene-L-iditol (C.A. 41, 2697h) treated with 1.90 g. p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>Cl in 6 ml. C<sub>6</sub>H<sub>6</sub> and

kept 3 hrs., treated with 0.1 ml. H<sub>2</sub>O and dild. with C<sub>6</sub>H<sub>6</sub>, the soln. washed successively with dil. H<sub>2</sub>SO<sub>4</sub>, aq. NaHCO<sub>3</sub>, and H<sub>2</sub>O, and evapd. yielded

3.74 g. 1,2: 3,4-di-O-isopropylidene-6-O-p-tolylsulfonyl-L-iditol (XVI), [ $\alpha$ .]D 1.degree. (c 2.2, alc.). The tosyl compd. (0.94 g.) refluxed 18 hrs. in 30 ml. iso-PROH contg. 0.20 g. Na and dild. with C<sub>6</sub>H<sub>6</sub>, the soln. washed 3 times with H<sub>2</sub>O and evapd., the sirup [0.49 g., [ $\alpha$ .]D 12.degree. (c 2.4, alc.)] hydrolyzed 30 min. at 100.degree. in 5 ml. 0.1N H<sub>2</sub>SO<sub>4</sub> and neutralized (Ba-CO<sub>3</sub>), the soln. filtered, and evapd. gave 0.32 g. complex mixt. contg. mainly a product, RRh 1.7, and components moving at the speeds of rhamnose, **ribose**, and glucose. The mixt. (92 mg.) acetylated and the sirupy product crystd. (Et<sub>2</sub>O-petr. ether and dil. MeOH) gave 49 mg. XIII, m. 87-8.degree., [ $\alpha$ .]D -5.degree. (c 1.0, 2,4-lutidine). Deacetylation yielded a polyol, RRh 1.7. XVI (8 g.) heated 18 hrs. at 100.degree. in 100 ml. dioxane and 100 ml. cyclohexanol contg. 3.0 g. K and the mixt. evapd., the residual soln. neutralized with 6N HCl and acidified with 100 ml. 0.1N HCl in 200 ml. alc., the soln. refluxed 2 hrs. to remove the isopropylidene groups and neutralized with Ag<sub>2</sub>CO<sub>3</sub>, the filtered soln. evapd. and taken up in H<sub>2</sub>O, the liquid shaken with petr. ether and the aq. layer evapd., extd. with hot Me<sub>2</sub>CO, and the sirup (1.82 g.) recrystd. (Me<sub>2</sub>CO-Et<sub>2</sub>O and Me<sub>2</sub>CO) yielded XIV, m. 80-1.degree., [ $\alpha$ .]D -7.5.degree. (C 1.0, satd. borax). D-Altrose

(22 g.) heated 1 hr. at 100.degree. in 100 ml. Ac<sub>2</sub>O contg. 10 g. NaOAc and the mixt. added with stirring to ice H<sub>2</sub>O, kept 3 hrs. and extd. with C<sub>6</sub>H<sub>6</sub>, the

ext. washed 3 times with H<sub>2</sub>O, and evapd. gave 27 g. pentaacetate. The sirup taken up in 250 ml. CHCl<sub>3</sub>, kept 6 hrs. at room temp. with 250 ml. AcOH satd. with HBr and added with stirring to ice H<sub>2</sub>O, the washed and

dried CHCl<sub>3</sub> layer filtered, and evapd. gave 26 g. sirupy crude 2,3,4,6-tetra-O-acetyl-D-altrosyl bromide. The sirup in 60 ml. AcOH stirred at -5.degree. with 60 ml. AcOH and 120 ml. H<sub>2</sub>O contg. 28 g. Zn dust and the mixt. warmed to 20.degree., stirred overnight and extd. with C<sub>6</sub>H<sub>6</sub>, the ext. washed 3 times with H<sub>2</sub>O, and evapd. gave 4.1 g. sirupy 3,4,6-tri-O-acetyl-D-altral. The sirup hydrogenated 3 hrs. in 25 ml.

MeOH

with 100 mg. PtO<sub>2</sub> at 20.degree./1 atm. and the mixt. kept 2 hrs. with 100 mg. Na, the deacetylated product evapd., and the sirup (1.96 g.) fractionated on cellulose gave 80 mg. material, crystd. (EtOAc) to give authentic dihydro-D-altral, m. 105-6.degree., [ $\alpha$ .]D 72.degree. (c 0.9, H<sub>2</sub>O).

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TITLE: Hydrogenolysis of carbohydrates. VI. **Cyclic ketals** and related compounds  
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CODEN: JOCEAH; ISSN: 0022-3263  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable

=> s ribose and adenosine?

L21 8906 RIBOSE AND ADENOSINE?

=> s l21 and cyclic(w)ketals?

L22 0 L21 AND CYCLIC(W) KETALS?

=> s l21 and isopropylidene?

L23 76 L21 AND ISOPROPYLIDENE?

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ED Entered STN: 20000811  
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L23 ANSWER 8 OF 76 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
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L23 ANSWER 17 OF 76 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1978:154102 BIOSIS  
DN BA65:41102

TI EFFECT OF **ADENOSINE** ON CYCLIC AMP ACCUMULATION IN VENTRICULAR  
MYO CARDIUM.  
AU HUANG M; DRUMMOND G I  
CS DEP. CHEM., BIOCHEM. GROUP, UNIV. CALGARY, CALGARY, ALBERTA TSN 1N4, CAN.  
SO BIOCHEM PHARMACOL, (1976) 25 (24), 2713-2719.  
CODEN: BCPCA6. ISSN: 0006-2952.  
FS BA; OLD  
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L23 ANSWER 18 OF 76 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1977:202164 BIOSIS  
DN BA64:24528  
TI SIMPLE MODELS OF NUCLEIC-ACID INTERACTIONS PART 1 BASE BASE INTERACTIONS  
IN 1 2 DI ADENOSIN-N-6-YL ETHANE AND 1 4 DI ADENOSIN-N-6-YL BUTANE.  
AU ZEMLICKA J; OWENS J  
SO J ORG CHEM, (1977) 42 (3), 517-523.  
CODEN: JOCEAH. ISSN: 0022-3263.  
FS BA; OLD  
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L23 ANSWER 19 OF 76 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1975:199654 BIOSIS  
DN BA60:29650  
TI **RIBOSE** CONFORMATIONS IN THE COMMON PURINE BETA RIBOSIDES IN SOME  
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AU WESTHOF E; ROEDER O; CRONEISS I; LUEDEMANN H-D  
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CODEN: ZNFCAP. ISSN: 0341-0471.  
FS BA; OLD  
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L23 ANSWER 20 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 2002:695993 CAPLUS  
DN 137:217179  
TI Preparation of C2,5'-disubstituted and N6,C2,5'-tri-substituted  
nucleosides as **adenosine** receptor agonists  
IN Van Tilburg, Erica; Ijzerman, Ad  
PA Universiteit Leiden, Neth.; Can-Fite Biopharma Ltd.  
SO PCT Int. Appl., 91 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002070532	A2	20020912	WO 2002-IL160	20020303
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
	LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
	PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,				
	UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,				
	TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,				
	CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,				
	BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	GB 2372742	A1	20020904	GB 2001-5337	20010303
PRAI	GB 2001-5337	A	20010303		
OS	MARPAT 137:217179				

L23 ANSWER 21 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 2002:186249 CAPLUS  
 TI Stereocontrolled synthesis of sugar-modified diene analogues of **adenosine** and uridine via Stille coupling  
 AU Wnuk, Stanislaw F.; Sacasa, Pablo R.; Lewandowska, Elzbieta  
 CS Department of Chemistry, Florida International University, Miami, FL, 33199, USA  
 SO Abstracts of Papers, 223rd ACS National Meeting, Orlando, FL, United States, April 7-11, 2002 (2002), CARB-004 Publisher: American Chemical Society, Washington, D. C.  
 CODEN: 69CKQP  
 DT Conference; Meeting Abstract  
 LA English

L23 ANSWER 22 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 2001:197745 CAPLUS  
 TI Regio- and stereoselective tritium labeling of carbohydrates and nucleosides  
 AU Saljoughian, Manouchehr; Morimoto, Hiromi; Than, Chit; Williams, Philip G.  
 CS Division of Physical Biosciences, LBNL, University of California, Berkeley, CA, 94720, USA  
 SO Abstr. Pap. - Am. Chem. Soc. (2001), 221st, CARB-090  
 CODEN: ACSRAL; ISSN: 0065-7727  
 PB American Chemical Society  
 DT Journal; Meeting Abstract  
 LA English

L23 ANSWER 23 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1998:138692 CAPLUS  
 TI Synthesis of methylenebis(phosphonate) analogs of cyclic ADP-**ribose**  
 AU Pankiewicz, Krzysztof W.; Lesiak, Krystyna  
 CS Codon Pharmaceuticals, Gaithersburg, MD, 20877, USA  
 SO Book of Abstracts, 215th ACS National Meeting, Dallas, March 29-April 2 (1998), CARB-006 Publisher: American Chemical Society, Washington, D. C.  
 CODEN: 65QTAA  
 DT Conference; Meeting Abstract  
 LA English

L23 ANSWER 24 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1998:26074 CAPLUS  
 DN 128:115185  
 TI An efficient synthesis of enantiomeric ribonucleic acids from D-glucose  
 AU Pitsch, Stefan  
 CS Organisch-Chemisches Laboratorium, Eidgenoessische Technische Hochschule, Zurich, CH-8092, Switz.  
 SO Helvetica Chimica Acta (1997), 80(8), 2286-2314  
 CODEN: HCACAV; ISSN: 0018-019X  
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 DT Journal  
 LA English  
 OS CASREACT 128:115185

L23 ANSWER 25 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1996:705588 CAPLUS  
 DN 125:329266  
 TI Removal of Acetal, Silyl, and 4,4'-Dimethoxytrityl Protecting Groups from Hydroxyl Functions of Carbohydrates and Nucleosides with Clay in Aqueous



Methanol

AU Asakura, Jun-ichi; Robins, Morris J.; Asaka, Yukihiro; Kim, Tong Hei  
 CS School of Medicine, Kinki University, Osaka, 589, Japan  
 SO Journal of Organic Chemistry (1996), 61(25), 9026-9027  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 OS CASREACT 125:329266

L23 ANSWER 26 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1996:414744 CAPLUS  
 TI Synthesis and biological evaluation of clitocine analogs as  
**adenosine** kinase inhibitors.  
 AU Lee, Chih-Hung; Jiang, Meiqun; Daanen, Jerry; Kohlaas, Kathy L.;  
 Alexander, Karen M.; Yu, Haixia; Kowaluk, Elizabeth A.; Bhagwat, Shripad  
 S.  
 CS Abbott Laboratories, Neuroscience Research, Abbott Park, IL, 60064-3500,  
 USA  
 SO Book of Abstracts, 212th ACS National Meeting, Orlando, FL, August 25-29  
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 CODEN: 63BFAF  
 DT Conference; Meeting Abstract  
 LA English

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 AN 1996:155394 CAPLUS  
 DN 124:317758  
 TI Clay catalyzed acetonation: a simple method for the preparation of  
**isopropylidene** carbohydrates  
 AU Asakura, Jun-ichi; Matsubara, Yoshio; Yoshihara, Masakuni  
 CS Dep. Biochem., Kinki Univ. Sch. Med., Osaka, 589, Japan  
 SO Journal of Carbohydrate Chemistry (1996), 15(2), 231-9  
 CODEN: JCACDM; ISSN: 0732-8303  
 PB Dekker  
 DT Journal  
 LA English  
 OS CASREACT 124:317758

L23 ANSWER 28 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1995:590191 CAPLUS  
 DN 123:52110  
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**adenosine** kinase from *Toxoplasma gondii*  
 AU Iltzsch, Max H.; Uber, Sheri S.; Tankersley, Kevin O.; el Kouni, Mahmoud  
 H.  
 CS Dept. Biol. Sci., Univ. Cincinnati, Cincinnati, OH, 45221, USA  
 SO Biochemical Pharmacology (1995), 49(10), 1501-12  
 CODEN: BCPCA6; ISSN: 0006-2952  
 PB Elsevier  
 DT Journal  
 LA English

L23 ANSWER 29 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1995:297966 CAPLUS  
 DN 122:100325  
 TI Specific Inhibition of Poly(ADP-**ribose**) Glycohydrolase by  
**Adenosine** Diphosphate (Hydroxymethyl)pyrrolidinediol  
 AU Slama, James T.; Aboul-Ela, Nasreen; Goli, Deepa M.; Cheesman, Bruce V.;  
 Simmons, Anne M.; Jacobson, Myron K.

CS Department of Medicinal and Biological Chemistry, University of Toledo,  
Toledo, OH, 43606, USA  
SO Journal of Medicinal Chemistry (1995), 38(2), 389-93  
CODEN: JMCMAR; ISSN: 0022-2623  
PB American Chemical Society  
DT Journal  
LA English

L23 ANSWER 30 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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DN 121:149280  
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P2X-purinoceptors in rat urinary bladder  
AU Bo, Xuenong; Fischer, Bilha; Maillard, Michel; Jacobson, Kenneth A.;  
Burnstock, Geoffrey  
CS Dep. Anat. Dev. Biol., Univ. College London, London, WC1E 6BT, UK  
SO British Journal of Pharmacology (1994), 112(4), 1151-9  
CODEN: BJPCBM; ISSN: 0007-1188  
DT Journal  
LA English

L23 ANSWER 31 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1994:289456 CAPLUS  
DN 120:289456  
TI Structure activity relationships for derivatives of **adenosine**  
-5'-triphosphate as agonists at P2 purinoceptors: heterogeneity within  
P2x  
and P2Y subtypes  
AU Brunstock, Geoffrey; Fischer, Bilha; Hoyle, Charles H. V.; Maillard,  
Michel; Ziganshin, Airat U.; Brizzolara, Antonia L.; von Isakovics, Amy;  
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CS Lab. Bioorg. Chem., Natl. Inst. Diabetes and Digestive and Kidney Dis.,  
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SO Drug Development Research (1994), 31(3), 206-19  
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DT Journal  
LA English

L23 ANSWER 32 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1993:534108 CAPLUS  
DN 119:134108  
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binding to the **adenosine** deaminase in the scallop (*Patinopecten*  
*yessoensis*) midgut gland  
AU Yoshida, Shinya; Aikawa, Toyoo  
CS Fac. Sci., Niigata Univ., Niigata, 950-21, Japan  
SO Comparative Biochemistry and Physiology, Part B: Biochemistry &  
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Biology (1993), 105B(1), 63-7  
CODEN: CBPBB8; ISSN: 0305-0491  
DT Journal  
LA English

L23 ANSWER 33 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1990:552950 CAPLUS  
DN 113:152950  
TI <sup>13</sup>C-Enriched ribonucleosides: synthesis and application of <sup>13</sup>C-1H and  
<sup>13</sup>C-<sup>13</sup>C spin-coupling constants to assess furanose and N-glycoside bond  
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AU Kline, Paul C.; Serianni, Anthony S.

CS Dep. Chem. Biochem., Univ. Notre Dame, Notre Dame, IN, 46556, USA  
 SO Journal of the American Chemical Society (1990), 112(20), 7373-81  
 CODEN: JACSAT; ISSN: 0002-7863  
 DT Journal  
 LA English

L23 ANSWER 34 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1989:24223 CAPLUS  
 DN 110:24223  
 TI Conformational analysis of 8-substituted **isopropylidene** derivatives of **adenosine**-5'-carboxylic acid  
 AU Timoshchuk, V. A.; Ermolenko, T. M.; Akhrem, A. A.  
 CS Beloruss. Inst. Epidemiol. Mikrobiol., Minsk, USSR  
 SO Zhurnal Organicheskoi Khimii (1988), 24(6), 1214-20  
 CODEN: ZORKAE; ISSN: 0514-7492  
 DT Journal  
 LA Russian

L23 ANSWER 35 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1987:632101 CAPLUS  
 DN 107:232101  
 TI Kinetic characteristics and binding process of substrate analogs to the **adenosine** deaminase in the marine mussel, *Mytilus edulis*  
 AU Ogawa, Tetsuo; Aikawa, Yoko; Aikawa, Toyoo  
 CS Fac. Sci., Niigata Univ., Niigata, 950-21, Japan  
 SO Comparative Biochemistry and Physiology, Part B: Biochemistry & Molecular Biology (1987), 88B(1), 91-100  
 CODEN: CBPBB8; ISSN: 0305-0491  
 DT Journal  
 LA English

L23 ANSWER 36 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1986:627209 CAPLUS  
 DN 105:227209  
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 AU Lehtikoinen, Pertti; Mattinen, Jorma; Lonnberg, Harri  
 CS Dep. Chem. Biochem., Univ. Turku, Turku, SF-20500, Finland  
 SO Journal of Organic Chemistry (1986), 51(20), 3819-23  
 CODEN: JOCEAH; ISSN: 0022-3263  
 DT Journal  
 LA English

L23 ANSWER 37 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1986:439931 CAPLUS  
 DN 105:39931  
 TI Comparative study of 2',3'-O-**isopropylideneadenosine** and **adenosine** transformations in rat liver homogenates  
 AU Golovatskii, I. D.; Petlichnaya, L. I.  
 CS A. V. Palladin Inst. Biochem., Lvov, USSR  
 SO Ukrainskii Biokhimiicheskii Zhurnal (1978-1999) (1986), 58(3), 37-40  
 CODEN: UBZHD4; ISSN: 0201-8470  
 DT Journal  
 LA Russian

L23 ANSWER 38 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1986:182604 CAPLUS  
 DN 104:182604

TI Production of anti-(ADP-**ribose**) antibodies with the aid of a  
dinucleotide-pyrophosphatase-resistant hapten and their application for  
the detection of mono(ADP-ribosyl)ated polypeptides  
AU Meyer, Thomas; Hilz, Helmuth  
CS Inst. Physiol. Chem., Univ. Hamburg, Hamburg, D-2000/20, Fed. Rep. Ger.  
SO European Journal of Biochemistry (1986), 155(1), 157-65  
CODEN: EJBCAI; ISSN: 0014-2956  
DT Journal  
LA English

L23 ANSWER 39 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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Chemical synthesis and enzymic properties  
AU Meyer, Thomas; Wielckens, Klaus; Thiem, Joachim; Hilz, Helmuth  
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CODEN: EJBCAI; ISSN: 0014-2956  
DT Journal  
LA English

L23 ANSWER 40 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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**ribose** and **adenosine**: new method for access to  
C(4')-C(5') unsaturated ribofuranosides  
AU Boullais, C.; Zylber, N.; Zylber, J.; Guilhem, J.; Gaudemer, A.  
CS Groupe Rech., CNRS, Thiais, 94320, Fr.  
SO Tetrahedron (1983), 39(5), 759-65  
CODEN: TETRAB; ISSN: 0040-4020  
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LA French

L23 ANSWER 41 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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dinucleoside with two deamination sites for **adenosine** deaminase  
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LA English

L23 ANSWER 42 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1979:121939 CAPLUS  
DN 90:121939  
TI Intramolecular hydrogen bonding and conformation of 2-alkylthio-2',3'-O-  
**isopropylidene adenosines**  
AU Higuchi, Shigesada; Kikugawa, Kiyomi  
CS Mitsubishi-Kasei Inst. Life Sci., Tokyo, Japan  
SO Nucleic Acids Res., Spec. Publ. (1978), 5(Symp. Nucleic Acids Chem.,  
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CODEN: NARPD6; ISSN: 0309-1872  
DT Journal  
LA English

L23 ANSWER 43 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1978:572144 CAPLUS  
 DN 89:172144  
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**isopropylideneadenosine**: the co-existence of a planar and a  
 puckered ribofuranose ring  
 AU Sprang, Stephen; Rohrer, D. C.; Sundaralingam, M.  
 CS Coll. Agric. Life Sci., Univ. Wisconsin, Madison, Wis., USA  
 SO Acta Crystallogr., Sect. B (1978), B34(9), 2803-10  
 CODEN: ACBCAR; ISSN: 0567-7408  
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 LA English

L23 ANSWER 44 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1978:547169 CAPLUS  
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 AU Araki, Younosuke; Hijioka, Yoshito; Ishido, Yoshiharu; Sato, Tetsuo  
 CS Fac. Sci., Tokyo Inst. Technol., Tokyo, Japan  
 SO Carbohydr. Res. (1978), 64, 309-14  
 CODEN: CRBRAT; ISSN: 0008-6215  
 DT Journal  
 LA English

L23 ANSWER 45 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 DN 87:152496  
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 AU Ritchie, R. George S.; Perlin, Arthur S.  
 CS Dep. Chem., McGill Univ., Montreal, Que., Can.  
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 CODEN: CRBRAT  
 DT Journal  
 LA English

L23 ANSWER 46 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1977:73042 CAPLUS  
 DN 86:73042  
 TI Simple models of nucleic acid interactions. 1. Base-base interactions  
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 1,2-di(adenosin-N6-yl)ethane and 1,4-di(adenosin-N6-yl)butane  
 AU Zemlicka, Jiri; Owens, James  
 CS Michigan Cancer Found., Detroit, Mich., USA  
 SO J. Org. Chem. (1977), 42(3), 517-23  
 CODEN: JOCEAH  
 DT Journal  
 LA English

L23 ANSWER 47 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1976:572201 CAPLUS  
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 hexokinase. Effect of substrate substituents on affinity for the adenine  
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 AU Hampton, Alexander; Slotin, Lewis A.; Kappler, Francis; Sasaki, Takuma;  
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 SO J. Med. Chem. (1976), 19(12), 1371-7  
 CODEN: JMCMAR  
 DT Journal  
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L23 ANSWER 48 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1975:559349 CAPLUS  
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 CS Sch. Pharm., Univ. Wisconsin, Madison, WI, USA  
 SO Jerusalem Symp. Quantum Chem. Biochem. (1973), 5(Conform. Biol. Mol. Polym., Proc. Int. Symp., 1972), 297-310  
 CODEN: JSQCA7  
 DT Journal  
 LA English

L23 ANSWER 49 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 TI Preparation of a substituted 3-acetamido-3-deoxy-D-ribofuranosyl bromide suitable for the synthesis of puromycin analogs  
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 CODEN: CRBRAT  
 DT Journal  
 LA English

L23 ANSWER 50 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 AU Akasaka, K.; Imoto, T.; Shibata, S.; Hatano, H.  
 CS Fac. Sci., Kyoto Univ., Kyoto, Japan  
 SO J. Magn. Reson. (1975), 18(2), 328-43  
 CODEN: JOMRA4  
 DT Journal  
 LA English

L23 ANSWER 51 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1975:418497 CAPLUS  
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 TI Simulation of all-proton relaxation curves as a means to elucidate molecular conformation in solution  
 AU Akasaka, K.; Shibata, S.; Imoto, T.; Hatano, H.  
 CS Fac. Sci., Kyoto Univ., Kyoto, Japan  
 SO J. Magn. Reson. (1975), 17(3), 413-16  
 CODEN: JOMRA4  
 DT Journal  
 LA English

L23 ANSWER 52 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1975:156612 CAPLUS

DN 82:156612  
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 AU Westhof, Eric; Roeder, Oskar; Croneiss, Ingrid; Luedemann, Hans D.  
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 SO Z. Naturforsch., Teil C (1975), 30c(3-4), 131-40  
 CODEN: ZNFCAP  
 DT Journal  
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L23 ANSWER 53 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 AU Akasaka, Kazuyuki; Imoto, Toshiaki; Hatano, Hiroyuki  
 CS Fac. Sci., Kyoto Univ., Kyoto, Japan  
 SO Chem. Phys. Lett. (1973), 21(2), 398-400  
 CODEN: CHPLBC  
 DT Journal  
 LA English

L23 ANSWER 54 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1973:537428 CAPLUS  
 DN 79:137428  
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 AU Belikova, A. M.; Grineva, N. I.; Kabasheva, G. N.  
 CS Inst. Org. Chem., Novosibirsk, USSR  
 SO Tetrahedron (1973), 29(15), 2277-83  
 CODEN: TETRAB  
 DT Journal  
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L23 ANSWER 55 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 AU Anisuzzaman, A. K. M.; Lake, William C.; Whistler, Roy L.  
 CS Dep. Biochem., Purdue Univ., Lafayette, Indiana, USA  
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 CODEN: BICHAW  
 DT Journal  
 LA English

L23 ANSWER 56 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 AU Secrist, John A., III; Leonard, Nelson J.  
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 SO J. Amer. Chem. Soc. (1972), 94(5), 1702-6  
 CODEN: JACSAT  
 DT Journal  
 LA English

L23 ANSWER 57 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 AU Ikehara, Morio; Kaneko, Masakatsu; Okano, R.  
 CS Fac. Pharm. Sci., Osaka Univ., Osaka, Japan  
 SO Tetrahedron (1970), 26(24), 5675-82  
 CODEN: TETRAB  
 DT Journal  
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L23 ANSWER 58 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 DN 72:101043  
 TI Preparation and coupling of polypeptides of 5'-O-carboxymethyl ribonucleosides  
 AU Coat, Jean P.; David, Serge  
 CS Lab. Rech. Chim. Composes Biol., Fac. Sci., Orsay, Fr.  
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 CODEN: CRBRAT  
 DT Journal  
 LA French

L23 ANSWER 59 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1970:90797 CAPLUS  
 DN 72:90797  
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 AU Follmann, Hartmut; Hogenkamp, H. P. C.  
 CS Coll. of Med., Univ. of Iowa, Iowa City, Iowa, USA  
 SO J. Amer. Chem. Soc. (1970), 92(3), 671-7  
 CODEN: JACSAT  
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L23 ANSWER 60 OF 76 CAPLUS COPYRIGHT 2002 ACS  
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 CS Inst. Chim. Subst. Nat., C.N.R.S., Gif-sur-Yvette, Fr.  
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 DT Journal  
 LA French

L23 ANSWER 61 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1969:115465 CAPLUS  
 DN 70:115465  
 TI Electronic properties of N-heteroaromatics. XXIX. Solubilization of purine nucleosides by a borate and its mechanism  
 AU Okano, Teisuku; Komatsu, Toyohiko; Nara, Takeshi; Tsuji, Kazuyuki  
 CS Sch. Med., Tohoku Univ., Sendai, Japan  
 SO Yakugaku Zasshi (1969), 89(1), 51-7  
 CODEN: YKKZAJ  
 DT Journal



LA English

L23 ANSWER 62 OF 76 CAPLUS COPYRIGHT 2002 ACS

AN 1969:38035 CAPLUS

DN 70:38035

TI Derivatives of 3-alkyl ribofuranosides

IN Walton, Edward

PA Merck and Co., Inc.

SO Fr., 9 pp.

CODEN: FRXXAK

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	FR 1498856		19671020		
PRAI	US		19651115		

L23 ANSWER 63 OF 76 CAPLUS COPYRIGHT 2002 ACS

AN 1967:482358 CAPLUS

DN 67:82358

TI Nonglycosidic analogs of nucleosides. I. 6-(2',5'-Anhydro-D-ribitylamino)purine

AU Cleophax, Janine; Defaye, Jacques; Gero, Stephan D.

CS CNRS, Gif-sur-Yvette, Ssonne, Fr.

SO Bull. Soc. Chim. Fr. (1967), (1), 104-7

CODEN: BSCFAS

DT Journal

LA French

L23 ANSWER 64 OF 76 CAPLUS COPYRIGHT 2002 ACS

AN 1967:417866 CAPLUS

DN 67:17866

TI Interaction between synthetic ATP analogs and actomyosin systems. IV  
AU Tonomura, Yuji; Imamura, Kiichi; Ikehara, Morio; Uno, Hitoshi; Harada, Fumio

CS Osaka Univ., Osaka, Japan

SO J. Biochem. (Tokyo) (1967), 61(4), 460-72

CODEN: JOBIAO

DT Journal

LA English

L23 ANSWER 65 OF 76 CAPLUS COPYRIGHT 2002 ACS

AN 1965:411280 CAPLUS

DN 63:11280

OREF 63:2030b-d

TI Interaction between synthetic **adenosine** triphosphate analogs and actomyosin systems. III

AU Ikehara, Morio; Ohtsuka, Eiko; Uno, Hitoshi; Imamura, Kiichi; Tonomura, Yuji

CS Hokkaido Univ., Sapporo, Japan

SO Biochim. Biophys. Acta (1965), 100(2), 471-8

DT Journal

LA English

L23 ANSWER 66 OF 76 CAPLUS COPYRIGHT 2002 ACS

AN 1965:29883 CAPLUS

DN 62:29883

OREF 62:5325e-h

TI Synthesis of 4-thio-D- and -L-ribofuranose and the corresponding adenine

nucleosides  
 AU Reist, Elmer J.; Gueffroy, Donald E.; Goodman, Leon  
 CS Stanford Res. Inst., Menlo Park, CA  
 SO J. Am. Chem. Soc. (1964), 86(24), 5658-63  
 CODEN: JACSAT; ISSN: 0002-7863  
 DT Journal  
 LA English

L23 ANSWER 67 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1965:3283 CAPLUS  
 DN 62:3283  
 OREF 62:626e-f  
 TI Synthesis of phosphonites and phosphinites of nucleosides  
 AU Nifant'ev, E. E.; Markov, S. M.; Tuseev, A. P.  
 SO Zh. Obshsh. Khim. (1964), 34(9), 3126  
 DT Journal  
 LA Russian

L23 ANSWER 68 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1964:480678 CAPLUS  
 DN 61:80678  
 OREF 61:14044g-h,14045a  
 TI Infrared spectra of nucleoside and nucleotide derivatives of adenine and cytosine  
 AU Silaeva, S. A.; Kazitsyna, L. A.; Prokof'ev, M. A.  
 CS State Univ., Moscow  
 SO Vestn. Mosk. Univ., Ser. II, Khim. (1964), 19(4), 75-80  
 DT Journal  
 LA Unavailable

L23 ANSWER 69 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1964:418526 CAPLUS  
 DN 61:18526  
 OREF 61:3188b-e  
 TI Preparation of 2',3'-O-alkylidene D-ribonucleosides  
 PA Ajinomoto Co., Inc.  
 SO 10 pp.  
 DT Patent  
 LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	FR 1354426		19640306	FR	
PRAI	JP		19620420		

L23 ANSWER 70 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1962:471290 CAPLUS  
 DN 57:71290  
 OREF 57:14218e-f  
 TI Germination of conidia of Peronospora tabacina. I. Germination in vitro  
 AU Shepherd, C. J.  
 CS Div. Plant Ind., C.S.I.R.O., Canberra  
 SO Australian J. Biol. Sci. (1962), 15, 483-508  
 DT Journal  
 LA Unavailable

L23 ANSWER 71 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 AN 1962:436589 CAPLUS  
 DN 57:36589  
 OREF 57:7365a-i  
 TI Synthesis of P-N amino acid (peptide) derivatives of adenylic acid and a

study of their properties  
AU Andronova, L. G.; Shabarova, Z. A.; Ryabova, T. S.; Prokofev, M. A.  
CS State Univ., Moscow  
SO Zh. Obshch. Khim. (1961), 31, 3243-50  
DT Journal  
LA Unavailable

L23 ANSWER 72 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1962:429818 CAPLUS  
DN 57:29818  
OREF 57:6004f-i,6005a-d,6006a-c  
TI The hydrolysis of sulfonium nucleosides and glycosides by alkali  
AU Baddiley, J.; Frank, W.; Hughes, N. A.; Wieczorkowski, J.  
CS Univ. Durham, Newcastle-Upon-Tyne, UK  
SO J. Chem. Soc. (1962) 1999  
DT Journal  
LA Unavailable

L23 ANSWER 73 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1961:93506 CAPLUS  
DN 55:93506  
OREF 55:17640c-f  
TI Synthesis of nucleotide coenzymes and related compounds  
AU Shabarova, Z. A.; Ryabova, T. S.; Prokof'ev, M. A.  
CS M. V. Lomonosov State Univ., Moscow  
SO Doklady Akad. Nauk S.S.S.R. (1961), 136, 1116-19  
DT Journal  
LA Unavailable

L23 ANSWER 74 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1959:67725 CAPLUS  
DN 53:67725  
OREF 53:12290b-e  
TI Analogs of nucleotides. III. Syntheses in the series of **adenosine**  
phosphonate derivatives  
AU Wolff, Manfred E.; Burger, Alfred  
CS Univ. of Virginia, Charlottesville  
SO J. Am. Pharm. Assoc. (1959), 48, 56-9  
DT Journal  
LA Unavailable

L23 ANSWER 75 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1950:7406 CAPLUS  
DN 44:7406  
OREF 44:1420d-h  
TI Synthesis of purine nucleosides. XXIII. A new synthesis of  
**adenosine**  
AU Kenner, G. W.; Taylor, C. W.; Todd, A. R.  
CS Univ. Chem. Lab., Cambridge, UK  
SO J. Chem. Soc. (1949) 1620-4  
DT Journal  
LA Unavailable

L23 ANSWER 76 OF 76 CAPLUS COPYRIGHT 2002 ACS  
AN 1936:730 CAPLUS  
DN 30:730  
OREF 30:105a-e  
TI Partial synthesis of **ribose** nucleotides. II. Muscle inosinic  
acid  
AU Levene, P. A.; Tipson, R. Stuart

SO J. Biol. Chem. (1935), 111, 313-23  
DT Journal  
LA Unavailable

=> d l23 abs ibib 1,6,7,13,15,19,20,34,37,41,52,53,54,69,75

L23 ANSWER 1 OF 76 MEDLINE

AB The synthesis of cyclic ADP-carbocyclic-**ribose** (2), as a stable mimic for cyclic ADP-**ribose**, was investigated. Construction of the 18-membered backbone structure was successfully achieved by condensation of the two phosphate groups of 19, possibly due to restriction of the conformation of the substrate in a syn-form using an 8-chloro substituent at the adenine moiety. SN2 reactions between an optically active carbocyclic unit 8, which was constructed by a previously developed method, and 8-bromo-N6-trichloroacetyl-2',3'-O-**isopropylideneadenosine** 9c gave N-1-carbocyclic derivative, which was deprotected to give 5'-5"-diol derivatives 18. When 18 was treated with POCl3 in PO(OEt)3, the bromo group at the 8-position was replaced to give N-1-carbocyclic-8-chloroadenosine 5',5"-diphosphate derivative 19 in 43% yield. Treatment of 19 with 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride gave the desired intramolecular condensation product 20 in 10% yield. This is the first chemical construction of the 18-membered backbone structure containing an intramolecular pyrophosphate linkage of a cADPR-related compound with an adenine base.

ACCESSION NUMBER: 2000232693 MEDLINE

DOCUMENT NUMBER: 20232693 PubMed ID: 10772708

TITLE: Nucleosides and nucleotides. 192. Toward the total synthesis of cyclic ADP-carbocyclic-**ribose**. Formation of the intramolecular pyrophosphate linkage by a conformation-restriction strategy in a syn-form using a halogen substitution at the 8-position of the adenine ring.

AUTHOR: Sumita Y; Shirato M; Ueno Y; Matsuda A; Shuto S  
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Hokkaido University, Sapporo, Japan.

SOURCE: NUCLEOSIDES, NUCLEOTIDES & NUCLEIC ACIDS, (2000 Jan-Feb)  
19 (1-2) 175-87.

Journal code: 100892832. ISSN: 1525-7770.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200007

ENTRY DATE: Entered STN: 20000811

Last Updated on STN: 20000811

Entered Medline: 20000731

L23 ANSWER 6 OF 76 MEDLINE

AB With the use of PMR the **ribose** conformations have been studied in the temperature range -60 to +40 degrees C in ND3 solutions of **adenosine** (A), **guanosine** (G), **inosine** (I), **xanthosine** (X), **purineriboside** (PR), **2-aminopurineriboside** (2amPR), **N6-isopentenyladenosine** (N6ipA), **8-bromoadenosine** (iA), and **isopropylideneguanosine** (iG). The analysis is based on the two-state S in equilibrium N model of the **ribose** moiety proposed by Altona and Sundaralingam. The compounds studied can be classified into

two groups: 1. A, I, G, X, PR, 2amPR, N6ipA, and T show a small temperature dependence of thnd F have a stronger temperature dependence and [S] approximately 0.8. Within these two groups the similarities observed are greater than observed in the solid state. Some thermodynamic conclusions about the S in equilibrium N and the syn in equilibrium anti equilibria are presented. The results support the previously proposed correlation of the S state of the **ribose** with the syn conformation of the base and of the N state of the **ribose** with the anti conformation of the base. Furthermore, it is derived that the gg rotamer is correlated with the S state of the **ribose** and therefore stabilizes the syn conformation of the base.

ACCESSION NUMBER: 76015163 MEDLINE  
 DOCUMENT NUMBER: 76015163 PubMed ID: 125961  
 TITLE: **Ribose** conformations in the common purine(beta)ribosides, in some antibiotic nucleosides, and in some **isopropylidene** derivatives: a comparison.  
 AUTHOR: Westhof E; Roder O; Croneiss I; Ludemann H D  
 SOURCE: ZEITSCHRIFT FUR NATURFORSCHUNG. SECTION C. BIOSCIENCES, (1975 Mar-Apr) 30 (2) 131-40.  
 Journal code: 7801143. ISSN: 0341-0382.  
 PUB. COUNTRY: GERMANY, WEST: Germany, Federal Republic of  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 197511  
 ENTRY DATE: Entered STN: 19900313  
 Last Updated on STN: 19900313  
 Entered Medline: 19751122

L23 ANSWER 7 OF 76 MEDLINE  
 ACCESSION NUMBER: 72153724 MEDLINE  
 DOCUMENT NUMBER: 72153724 PubMed ID: 5016330  
 TITLE: Synthesis of 2',3'-O-**isopropylidene** -5'-keto-8,5'-cycloadenosine, a novel cyclonucleoside.  
 AUTHOR: Harper P J; Hampton A  
 SOURCE: JOURNAL OF ORGANIC CHEMISTRY, (1972 Mar 10) 37 (5) 795-7.  
 Journal code: 2985193R. ISSN: 0022-3263.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 197206  
 ENTRY DATE: Entered STN: 19900310  
 Last Updated on STN: 19970203  
 Entered Medline: 19720613

L23 ANSWER 13 OF 76 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AB Two **adenosine** molecules are connected via their **ribose** moieties by transacetalation with 2,2,5,5-tetraethoxyhexane, yielding diastereoisometric bis(**isopropylidene adenosine**) compounds with S,S- (1a) or R, S-configured (1b) acetal carbons. The S,S isomer shows high hypochromicity and a pronounced positive Cotton effect, which implies strong stacking interactions. The stacking of 1b is less pronounced. Both isomers are substrates for mammalian [calf intestine] **adenosine** deaminase. Whereas compound 1a is slowly deaminated due to steric hindrance and stacking interactions, the diastereoisomer 1b is a much better substrate for the enzyme. Because of the difference in

configuration in 1b the **adenosine** moieties are processed stepwise. Moreover, isomer 1b is a strong competitive inhibitor for the deamination of **adenosine** by the enzyme.

ACCESSION NUMBER: 1982:278955 BIOSIS  
DOCUMENT NUMBER: BA74:51435  
TITLE: BIS ISOPROPYLIDENE ADENOSINE A NOVEL  
BASE STACKED DI NUCLEOSIDE WITH 2 DEAMINATION SITES FOR  
ADENOSINE DEAMINASE EC-3.5.4.4.  
AUTHOR(S): SEELA F; OTT J  
CORPORATE SOURCE: UNIV. OF PADERBORN, FACHBEREICH NATURWISSENSCHAFTEN  
II-LABOR FUER BIOORGANISCHE CHEMIE, WARBURGER STRASSE 100,  
D-4790 PADERBORN, FRG.  
SOURCE: BIOORG CHEM, (1982) 11 (1), 24-31.  
CODEN: BOCMBM. ISSN: 0045-2068.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

L23 ANSWER 15 OF 76 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB 2',3'-O-Isopropylideneadenosine is a nucleoside in which the ribofuranose group is cyclized at the O(2') and O(3') atoms. IPLA crystallizes in the orthorhombic space group P212121 with cell constants

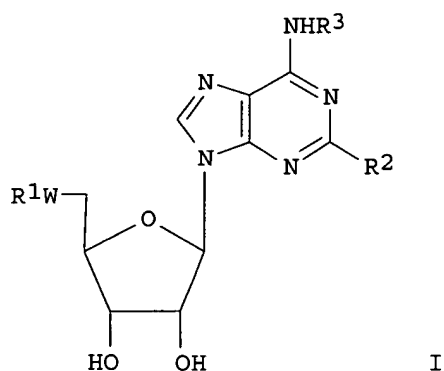
a = 20.957 (8), b = 17.134 (7), c = 7.940 (3) .ANG.. There are 2 independent molecules in the asymmetric unit. The intensities of 2663 independent reflections were measured on a Picker FACS-I diffractometer. The structure was solved by direct methods and refined by full-matrix least-squares techniques to a conventional R of 0.063. There are substantial differences in conformation between the 2 independent molecules. The ribofuranose ring of molecule A is essentially planar and the dioxolane ring assumes the C(6')endo, O(2')exo pucker. The conformation about the C(4')-C(5') bond is gauche+ (.PSI. = 53.6.degree.). In contrast, the ribofuranose group of molecule B exhibits the unusual 3T4 twist while the dioxolane ring is puckered in the C(3') endo, O(3') exo mode. The conformation about the C(4')-C(5) bond is trans (.PSI. = 174.5.degree.). Both nucleosides are observed in the anti glycosyl conformation, .chi. = 10.5 and 15.9.degree. in molecules A and B, respectively. The molecular packing is dominated by the self-pairing of the adenine bases which forms a H-bonding network in the ac plane involving the atoms N(1), N(6) and N(7) of the adenine rings. The bases of molecules A and B are partially overlapped and there are close contacts between the ribose ring O of molecule B and the imidazole moiety of the screw-related molecule A.

ACCESSION NUMBER: 1979:146260 BIOSIS  
DOCUMENT NUMBER: BA67:26260  
TITLE: THE CRYSTAL STRUCTURE AND CONFORMATION OF 2 3-O  
ISOPROPYLIDENE ADENOSINE THE COEXISTENCE  
OF A PLANAR AND A PUCKERED RIBO FURANOSE RING.  
AUTHOR(S): SPRANG S; ROHRER D C; SUNDARALINGAM M  
CORPORATE SOURCE: DEP. BIOCHEM., COLL. AGRIC. LIFE SCI., UNIV. WIS.,  
MADISON,  
WIS. 53706, USA.  
SOURCE: ACTA CRYSTALLOGR SECT B STRUCT CRYSTALLOGR CRYST CHEM,  
(1978) 34 (9), 2803-2810.  
CODEN: ACBCAR. ISSN: 0567-7408.  
FILE SEGMENT: BA; OLD

LANGUAGE: English

L23 ANSWER 19 OF 76 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 1975:199654 BIOSIS  
DOCUMENT NUMBER: BA60:29650  
TITLE: RIBOSE CONFORMATIONS IN THE COMMON PURINE BETA  
RIBOSIDES IN SOME ANTIBIOTIC NUCLEOSIDES AND IN SOME  
ISOPROPYLIDENE DERIVATIVES A COMPARISON.  
AUTHOR(S): WESTHOF E; ROEDER O; CRONEISS I; LUEDEMANN H-D  
SOURCE: Z NATURFORSCH SECT C BIOSCI, (1975) 30 (2), 131-140.  
CODEN: ZNFCAP. ISSN: 0341-0471.  
FILE SEGMENT: BA; OLD  
LANGUAGE: Unavailable

L23 ANSWER 20 OF 76 CAPLUS COPYRIGHT 2002 ACS  
GI



AB The present invention concerns novel C2,5'-disubstituted and N6',C2,5'-trisubstituted **adenosine** derivs. I wherein, W represents an oxygen or sulfur atom; R1 represents a lower alkyl or lower cycloalkyl; R2 represents a halogen, lower alkenyl, lower alkynyl or lower alkylidenehydrazino; R3 represents lower alkyl, lower cycloalkyl, (ar)alkyl, aryl or anilide; said cycloalkyl aryl and (ar)alkyl may be substituted with one or more substituent selected from halogen, hydroxy, hydroxyalkyl; or a salt of said compd. and their different uses. These **adenosine** derivs. were found to be potent **adenosine** receptor agonists and thus are of a therapeutic value in the treatment and prophylaxis of diseases and disorders affected by **adenosine** receptor agonists. Thus, 5'-deoxy--2-iodo-5'-ethylthioadenosine was prepd. and tested in vivo as human **adenosine** receptor agonist. The ability of title compds. to either stimulate cAMP prodn. through human **adenosine** A2A receptors expressed in CHO cells or inhibit the cAMP prodn. in human **adenosine** A3 receptors expressed in HEK 293 cells was assessed.

ACCESSION NUMBER: 2002:695993 CAPLUS  
DOCUMENT NUMBER: 137:217179  
TITLE: Preparation of C2,5'-disubstituted and N6,C2,5'-tri-substituted nucleosides as

**adenosine receptor agonists**  
 INVENTOR(S): Van Tilburg, Erica; Ijzerman, Ad  
 PATENT ASSIGNEE(S): Universiteit Leiden, Neth.; Can-Fite Biopharma Ltd.  
 SOURCE: PCT Int. Appl., 91 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002070532	A2	20020912	WO 2002-IL160	20020303
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
GB 2372742	A1	20020904	GB 2001-5337	20010303
PRIORITY APPLN. INFO.:			GB 2001-5337	A 20010303
OTHER SOURCE(S):		MARPAT 137:217179		

L23 ANSWER 34 OF 76 CAPLUS COPYRIGHT 2002 ACS

AB NMR data confirms that for 2',3'-O-**isopropylidene** derivs. of  
**adenosine** 5'-carboxylic acid the most probable conformation is  
 C4'-endo, O4'-exo, and C1'-endo. Compds. of this series are  
 characterized

principally by a syn-conformation of the heterocycle around the  
 N-glycosidic bond relative to the **ribose** fragment of the mols.  
 CD data confirmed that conformations are stabilized by a spatial  
 convergence of the N3 heterocyclic atom and the carboxyl group.

ACCESSION NUMBER: 1989:24223 CAPLUS

DOCUMENT NUMBER: 110:24223

TITLE: Conformational analysis of 8-substituted  
**isopropylidene** derivatives of  
**adenosine**-5'-carboxylic acid

AUTHOR(S): Timoshchuk, V. A.; Ermolenko, T. M.; Akhrem, A. A.

CORPORATE SOURCE: Beloruss. Inst. Epidemiol. Mikrobiol., Minsk, USSR

SOURCE: Zhurnal Organicheskoi Khimii (1988), 24(6), 1214-20  
 CODEN: ZORKAE; ISSN: 0514-7492

DOCUMENT TYPE: Journal

LANGUAGE: Russian

L23 ANSWER 37 OF 76 CAPLUS COPYRIGHT 2002 ACS

AB In rat liver homogenates 2',3'-O-**isopropylideneadenosine** was  
 deaminated to 2',3'-O-**isopropylideneinosine**. **Adenosine**  
 was deaminated to a greater extent and rate. **Adenosine** was  
 metabolized to hypoxanthene and **ribose** 1-phosphate, whereas the  
**isopropylidene** group was not split from  
**isopropylideneinosine**.

ACCESSION NUMBER: 1986:439931 CAPLUS

DOCUMENT NUMBER: 105:39931

TITLE: Comparative study of 2',3'-O-  
**isopropylideneadenosine** and **adenosine**  
 transformations in rat liver homogenates

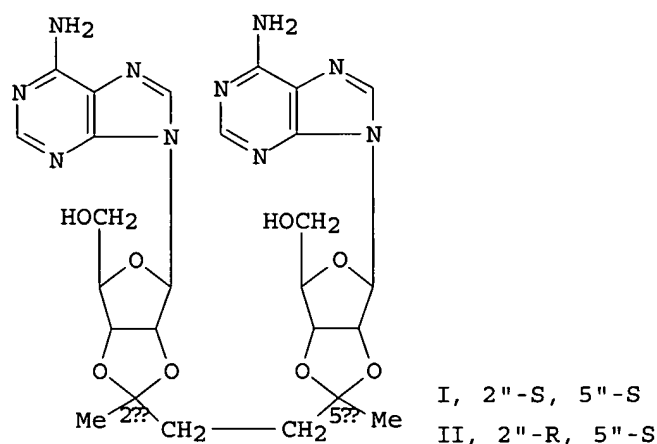


AUTHOR(S): Golovatskii, I. D.; Petlichnaya, L. I.  
 CORPORATE SOURCE: A. V. Palladin Inst. Biochem., Lvov, USSR  
 SOURCE: Ukrainskii Biokhimicheskii Zhurnal (1978-1999)  
 (1986),

58(3), 37-40  
 CODEN: UBZHD4; ISSN: 0201-8470

DOCUMENT TYPE: Journal  
 LANGUAGE: Russian

L23 ANSWER 41 OF 76 CAPLUS COPYRIGHT 2002 ACS  
 GI



AB Two **adenosine** mols. were connected via their **ribose** moieties by transacetalation with 2,2,5,5-tetraethoxyhexane, yielding diastereoisomeric bis(**isopropylideneadenosine**) compds. with S,S- (I) or R,S- (II) acetal carbons. I shows high hypochromicity and a pronounced pos. Cotton effect, which implies strong stacking interactions.

The stacking of II is less pronounced. Both isomers are substrates from mammalian **adenosine** deaminase (EC 3.5.4.4). Whereas I is slowly deaminated due to steric hindrance and stacking interactions, I is a much better substrate for the enzyme. Because of the difference in configuration in II the **adenosine** moieties are processed stepwise. Moreover, II is a strong competitive inhibitor for the deamination of **adenosine** by the enzyme.

ACCESSION NUMBER: 1982:424149 CAPLUS  
 DOCUMENT NUMBER: 97:24149  
 TITLE: Bis(**isopropylidene adenosine**) - a novel base-stacked dinucleoside with two deamination sites for **adenosine** deaminase  
 AUTHOR(S): Seela, Frank; Ott, Johann  
 CORPORATE SOURCE: Fachber. Naturwiss., Univ. Paderborn, Paderborn, D-4790, Fed. Rep. Ger.  
 SOURCE: Bioorg. Chem. (1982), 11(1), 24-31  
 CODEN: BOCMBM; ISSN: 0045-2068  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

L23 ANSWER 52 OF 76 CAPLUS COPYRIGHT 2002 ACS

AB **Ribose** conformations were studied at -60 to +40.degree. in ND3

solns. of **adenosine**, guanosine, inosine, xanthosine, purineriboside, 2-aminopurineriboside, N6-isopentenyladenosine, 8-bromoadenosine, 8-bromoguanosine, formycin B, tubercidin, **isopropylideneadenosine**, and **isopropylideneguanosine** with PMR based on the two-state model which was correlated with the syn and anti conformations of the base.

ACCESSION NUMBER: 1975:156612 CAPLUS  
DOCUMENT NUMBER: 82:156612  
TITLE: **Ribose** conformations in the common purine(.beta.)ribosides, in some antibiotic nucleosides, and in some **isopropylidene** derivatives. Comparison  
AUTHOR(S): Westhof, Eric; Roeder, Oskar; Croneiss, Ingrid; Luedemann, Hans D.  
CORPORATE SOURCE: Inst. Biophys Phys. Biochem., Univ. Regensburg, Regensburg, Ger.  
SOURCE: Z. Naturforsch., Teil C (1975), 30c(3-4), 131-40  
CODEN: ZNFCAP  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L23 ANSWER 53 OF 76 CAPLUS COPYRIGHT 2002 ACS

AB Proton T1 measurement with the Fourier transform method combined with quenching of dipolar coupling through selective D substitution was used to

elucidate intra- and intermol. interactions in soln., of 2',3'-O-**isopropylideneadenosine**. Av. distances between H-8 and **ribose** protons were detd. in combination with carbon-13 T1 measurement. The method is compared with the nuclear Overhauser effect.

ACCESSION NUMBER: 1973:546787 CAPLUS  
DOCUMENT NUMBER: 79:146787  
TITLE: Deuterium substitution effect on proton relaxation times as a direct means for elucidating molecular interaction in solution. Application to 2',3'-**isopropylideneadenosine**  
AUTHOR(S): Akasaka, Kazuyuki; Imoto, Toshiaki; Hatano, Hiroyuki  
CORPORATE SOURCE: Fac. Sci., Kyoto Univ., Kyoto, Japan  
SOURCE: Chem. Phys. Lett. (1973), 21(2), 398-400  
CODEN: CHPLBC  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L23 ANSWER 54 OF 76 CAPLUS COPYRIGHT 2002 ACS

AB The conformations of both diastereoisomers of 2',3'-O-benzylideneuridine, 2',3'-O-[4-[N-(2-chloroethyl)-N-methylamino]benzylidene]uridine, and 2',3'-O-[4-[N-(2-chloroethyl)-N-methylamino]benzylidene]**adenosine** were studied in comparison with the conformations of 2',3'-O-**isopropylideneuridine**, (I) 2',3'-O-**isopropylideneadenosine** (II), uridine, and **adenosine** by PMR. The Ph group at C-2 of the dioxolane ring in each diastereoisomeric benzylidene nucleoside occupied the axial position. CD spectra showed that this was due to electrostatic interaction with the heterocyclic base residue. The conformation of the **ribose** moiety of the benzylidene nucleosides differed from that of the **isopropylidene** analogs. The Cs-conformation of **ribose** was characteristic of trans-benzylideneuridines and of I and II.

ACCESSION NUMBER: 1973:537428 CAPLUS  
DOCUMENT NUMBER: 79:137428  
TITLE: Conformation of substituted benzylidene and **isopropylidene** nucleosides

AUTHOR(S): Belikova, A. M.; Grineva, N. I.; Kabashea, G. N.  
CORPORATE SOURCE: Inst. Org. Chem., Novosibirsk, USSR  
SOURCE: Tetrahedron (1973), 29(15), 2277-83  
CODEN: TETRAB  
DOCUMENT TYPE: Journal  
LANGUAGE: English

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AB Title compds. are prepd. from D-ribonucleosides (I) and ketones in the presence of POCl<sub>3</sub> catalyst, which makes possible the reaction even in the presence of H<sub>2</sub>O. The I:POCl<sub>3</sub> ratio is from 1:1.5 to 1:7, the H<sub>2</sub>O:POCl<sub>3</sub> ratio is from 0.5:1 to 3:1. Thus, 2 g. guanosine (II) is dissolved with stirring in 120 cc. Me<sub>2</sub>CO contg. 4.1 g. POCl<sub>3</sub>, kept 3 hrs., and poured slowly in 500 cc. iced H<sub>2</sub>O, the soln. adjusted to pH 8 with 10N Na<sub>2</sub>CO<sub>3</sub> and  
concd., the Me<sub>2</sub>CO removed, pH adjusted to 6 using HCl, the mixt. filtered,  
and the residue recrystd to yield 70% 2',3'-O-isopropylideneguanosine (III). Better yield is obtained as follows: 2 g. II is dissolved in small portions with stirring at 30.degree. in 80 g. Me<sub>2</sub>CO contg. 1% H<sub>2</sub>O and 4 g. POCl<sub>3</sub>, the mixt. stirred

1 hr., pH adjusted to 9 with 2.5N Na<sub>2</sub>CO<sub>3</sub>, the mixt. filtered, the residue washed with 50% Me<sub>2</sub>CO, the filtrate and the washed Me<sub>2</sub>CO united, and the mixt. concd. in vacuo, cooled, adjusted to pH 6.8 with 2N HCl, and filtered. The residue is washed with H<sub>2</sub>O and dried to obtain III, m. 300.degree., yield 95%. Similarly, 2',3'-O-isopropylidenes (% yield and m.p. given): with adenosine (99, 216.degree.); cytidine (98, 224.degree.); uridine (99, 161.degree.), are prepd. Similarly prepd. are 2',3'-O-isobutylideneinosine (85% yield, m. 274-7.degree.), and adenosine, II, cytidine and uridine 2',3'-O-isobutylidenes with 90, 57, 93, and 99%, resp. yields; and 2'-3-O-cyclohexylideneinosine (88% yield, m. 283-6.degree.).

ACCESSION NUMBER: 1964:418526 CAPLUS  
DOCUMENT NUMBER: 61:18526  
ORIGINAL REFERENCE NO.: 61:3188b-e  
TITLE: Preparation of 2',3'-O-alkylidene D-ribonucleosides  
PATENT ASSIGNEE(S): Ajinomoto Co., Inc.  
SOURCE: 10 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: Unavailable  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1354426		19640306	FR	
PRIORITY APPLN. INFO.:		JP		19620420

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AB Me 2,3-isopropylidene-D-ribofuranoside (I) (5 g.) in 50 cc. xylene, treated with 20 g. KOH and 4 g. PhCH<sub>2</sub>Cl and stirred 4 hrs. at 80.degree., gives 6 g. of the 5-benzyl deriv. (II), b. 95-100.degree./10-4  
(bath), [.alpha.]D<sub>17</sub> -36 .+- .2.degree. (CHCl<sub>3</sub>, c 1.3); 2 g. I in 1 cc. ether, added to 60 cc. liquid NH<sub>3</sub> and treated with 0.25 g. Na and then with 1.7 cc. PhCH<sub>2</sub>Cl, gives 1.6 g. II. II (2.3 g.) and 50 cc. 0.05 N 50% aq. EtOH-HCl, refluxed 3 hrs., give 1.6 g. 5-benzyl-D-ribofuranose (III), pale yellow sirup, [.alpha.]D<sub>18</sub> -8.5.degree. (EtOH, c 1.5). III (3.8 g.) in 0.25 cc. dioxane and 5 cc. concd. HCl (d. 1.19) at 0.degree., treated with 3 cc. EtSH and the crude sirup (3 g.) acetylated in C<sub>5</sub>H<sub>5</sub>N, gives 1.3

g. 2,3,4-triacetyl-5-benzyl-D-ribose di-Et mercaptal (IV), b. 170-80.degree./10-4 mm. (bath), [.alpha.]D18 9.degree. (CHCl3, c 0.87); decompn. of 3.7 g. with 8 g. yellow HgO and 9 g. HgCl2 in Me2CO gives 2.6 g. 2,3,4-triacetyl-5-benzyl-D-ribose (V), b. 150.degree./10-2 mm. (bath), [.alpha.]D17 -4.2.degree. (CHCl3, c 0.65). NH4Cl (0.3 g.), 11.4 g. 4,6-diamino-2-(methylmercapto)pyrimidine, and 6.6 g. V in 270 cc. abs. EtOH, kept 24 hrs. at room temp., the yellow glass (8.8 g.) deacetylated (2 days) with MeOHNH3 (satd. at 0.degree.), 4.3 g. of the sirup in 100 cc. C5H5N added to neutralized 2,5-Cl2C6H3N2Cl, and the azo compd. acetylated and chromatographed on Al2O3, give 6-amino-4-(2,3-diacetyl-5-benzyl-D-ribofuranosidamino)-5-(2,5-dichlorophenylazo)-2-(methylmercapto)pyrimidine (VI), an orange-yellow powder, m. about 90.degree., [.alpha.]D16 660 .+- 60.degree. (CHCl3, c 0.048); reduction of VI with Zn and AcOH in AcOEt, reaction with HCS2H, cyclization with MeONa, acetylation, and boiling 2 hrs. with Raney Ni, give **adenosine** (as the picrate).

ACCESSION NUMBER: 1950:7406 CAPLUS  
DOCUMENT NUMBER: 44:7406  
ORIGINAL REFERENCE NO.: 44:1420d-h  
TITLE: Synthesis of purine nucleosides. XXIII. A new synthesis of **adenosine**  
AUTHOR(S): Kenner, G. W.; Taylor, C. W.; Todd, A. R.  
CORPORATE SOURCE: Univ. Chem. Lab., Cambridge, UK  
SOURCE: J. Chem. Soc. (1949) 1620-4  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable

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